CA SOLVE:Access™ Session Management

User Guide

r5

CA Technologies Product References

This document references the following CA Technologies products:

- CA SOLVE:Access™ Session Management (CA SOLVE:Access)

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Chapter 1: Introduction

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About Jumping (see page 17)
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Model Session Definitions (see page 18)
Your Privilege Class (see page 18)
The MAI User Interface (see page 18)
MAI-Screen Image Services (see page 19)

Who Should Read This Manual

This manual is intended for users of CA SOLVE:Access. Use this manual if you want to:

- Log on to your system using an easy and secure method provided by the Enhanced Access Security Interface (EASINET).
- Run multiple applications from a single terminal using the Multiple Application Interface (MAI).
- Store, print and send screen images.

System Services

System Services provides a central core of basic functions and services.

Operator Console

Operator Console Services (OCS) provides an operator environment for command entry to monitor and control your region.

OCS is used in conjunction with the following system services:

Activity Log

Allows you to access all the commands, messages, or errors that have been issued and logged in the region for any given day

Network Information Utility File

Provides descriptions of errors and codes that are displayed in OCS

Remote Operator Facility (ROF)

Allows you to monitor and control remote regions through OCS

Event Distribution Services (EDS)

Allows you to filter out unwanted messages in OCS before they are passed to an application procedure

Multiple Access Interface-Operator Console (MAI-OC)

Allows you to log on to VTAM applications for monitoring and control

Security

Security for your system is provided by the User ID Access Maintenance Subsystem (UAMS). UAMS provides logon and password checking facilities, and the ability to control the authority and privileges of users. It can work together with your external security system.

Note: For more information, see the *Security Guide*.

Broadcast Services

Broadcast Services let you send broadcast messages to all users. Messages can be sent to terminals or can be sent to specific users based on selection criteria.

Print Management

The Print Services Manager (PSM) is a spooling facility that lets you control the physical printing of the reports your organization generates on JES or network printers.

Communications

Several facilities enable communication between regions and programs, and collect the following types of message flows:

Inter-Network Management Connection (INMC)

Lets you establish and monitor links between multiple regions.

Advanced Program-to-Program Communication (APPC)

Lets you use the APPC protocol to connect multiple regions.

Inter System Routing (ISR)

Lets you use INMC to provide centralized control at the system level.

Program-to-Program Interface (PPI)

Enables programs to communicate with each other.

Report Writer

Report Writer provides a facility for defining report layouts and generating reports to suit your particular site requirements.

Application Development

Using application development facilities, you can write your own menus, panels, and applications using the following facilities:

- Network Control Language
- Managed Object Development Services

Network Control Language

Network Control Language (NCL) is the interpretive language that is used to develop procedures, which can be executed by your product.

Note: For more information about NCL and its features, see the *Network Control Language Programming Guide* and the *Network Control Language Reference Guide*.

Managed Object Development Services

In conjunction with NCL, Managed Object Development Services (MODS) lets you create your own applications and develop panels to provide access to them. The following features are available:

Application Register

The definitions of all applications that are built in MODS must be defined in the application register.

Common Application Services (CAS)

A collection of high-quality, special-purpose NCL routines designed to facilitate program development.

Panel Services

A facility to create and maintain full-screen panel definitions.

Mapping Services

A facility that enables programmers to define complex data structures for use by NCL applications.

Administrative Functions

Maintains MODS control libraries, panel libraries, and object services support functions.

For more information about MODS, see the *Managed Object Development Services Programmer and Administrator Guide*.

The Product and its Components

CA SOLVE:Access is a session manager that provides a secure logon screen and enables users to access multiple mainframe applications concurrently.

CA SOLVE:Access consists of the following components:

Enhanced Access and Security Interface (EASINET)

Provides a user-friendly and secure logon screen as well as the facility to control idle terminals, broadcast messages to network users and simplify access to applications.

Terminals that are in an idle state awaiting logon by a user are normally under Virtual Telecommunications Access Method (VTAM) control. VTAM facilities, however, only allow limited customization of the logo and messages that can be displayed. VTAM does not allow device access for issuing broadcast messages, or for any function other than entering logon requests. This limits the scope for communication with network users and makes it impossible to impose security verification at the network boundary.

EASINET addresses these problems by providing a secure, easily customizable logon screen that provides the following features:

- Places idle display terminals under the control of EASINET
- Enables broadcast messages to be sent to all terminals warning of operational problems or other events
- Simplifies the logon process for users and displays available applications for selection

Multiple Application Interface (MAI)

Provides easy access to applications and the ability to operate multiple applications concurrently. MAI enables you to operate multiple applications from a single terminal. For example, you can operate a system management application at the same time that you are operating a text editing application.

Sessions

When a terminal is connected to an application it is said to have established a session. Whenever you start an application from the terminal through MAI, you start another session.

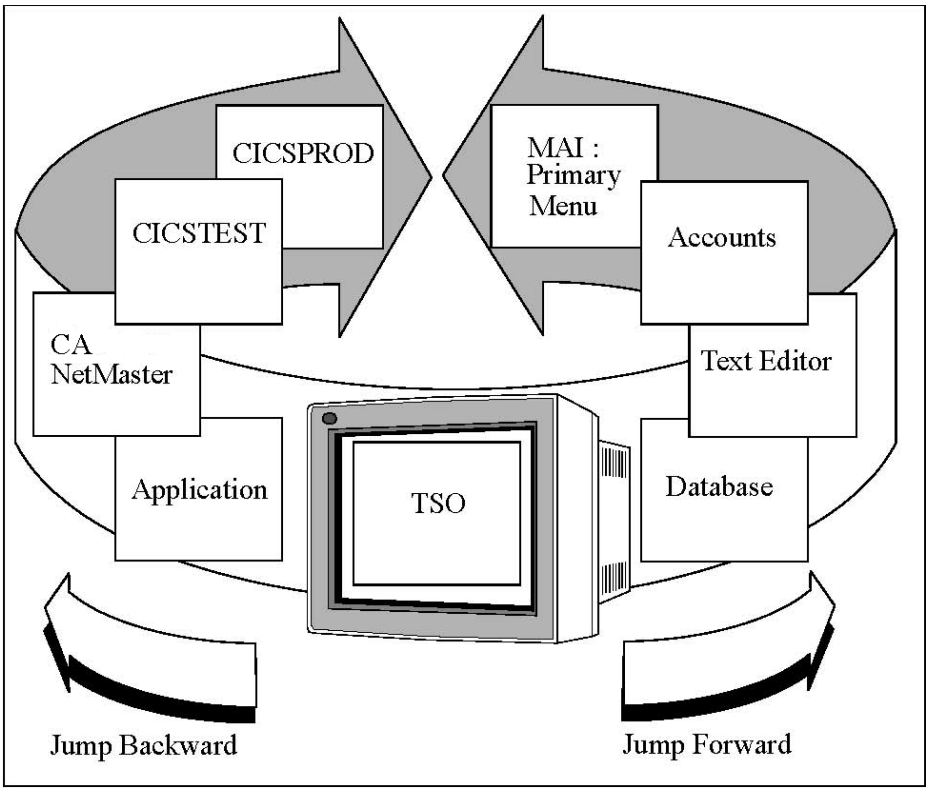
When you are using a particular application you are said to be having a conversation with that application. The session with which you are currently having a conversation is referred to as the active or current session.

Whilst you can establish any number of sessions simultaneously, each application uses the screen to display information and the keyboard to receive your input. Consequently, you can have as many applications running as you want but you can only have a conversation with a single application at a time.

The Session Circle

When more than one session has been established, the sessions can be regarded as being arranged in a sequence or ring of sessions.

MAI enables you to jump forwards and backwards through this sequence. If you jump forward from the last session in the sequence, the first session becomes current; if you jump backwards from the first session, the last session in the sequence becomes current. This sequence is referred to as the session circle or session ring. See the following illustration.



About Jumping

MAI enables you to change the current session from one application to another by jumping between sessions. You change to another session by pressing specified jump keys that you assign for this purpose.

When you jump to a specific session, MAI dedicates the terminal's screen and keyboard to the selected application and displays whatever was shown on the screen when the session was last active.

Stored Session Definitions

You can store session definitions that you have defined while using MAI. By creating stored definitions, you need not re-enter session information each time you use MAI. You can also associate a model session definition with a user.

Model Session Definitions

A model session definition is a set of stored session definitions that is associated with a particular user ID that is shared by multiple other users.

Your Privilege Class

Each MAI user is assigned a privilege class that determines their access to MAI functions. For example, certain classes of users are assigned a predefined set of sessions and cannot define new sessions while other users do not have access to the MAI : Primary menu.

Your privilege class will determine whether you see the MAI : Primary menu and are able to perform certain functions.

The MAI User Interface

MAI functions can be performed:

- From the MAI : Primary Menu
- From the Session Details panel
- Through primary, line and session commands.

Some users are limited to a predefined set of sessions and only have access to jump keys and a limited set of commands. These users do not see the MAI : Primary menu.

MAI-Screen Image Services

The MAI-Screen Image Services facility enables you to record and manipulate text that is displayed on your terminal's screen. This is referred to as a screen image.

This facility enables you to store, re-display, print, or transfer screen images to another user. You can also store data entered on one screen and then insert that data into a different screen so that MAI-Screen Image Services acts as a copy and paste facility for screen text.

Since you can store screens produced by any application, MAI-Screen Image Services can act as a useful diagnostic tool. You could, for example, store a screen that contains an error and send it to a help desk operator for analysis.

Using the screen transfer facilities a group of users could send screen images to each other to provide, for example, a classroom environment for tutorials and training.

Chapter 2: Using EASINET and Accessing MAI

This section contains the following topics:

EASINET (see page 21)
MAI Access (see page 22)
About the MAI : Primary Menu (see page 25)
About MAI Primary, Line, and Session Commands (see page 30)
MAI Session Navigation (see page 31)
Work in Two Windows (see page 33)
Function Key Assignments for MAI (see page 35)
Inactivity Time-Out (see page 38)
Online Help for MAI (see page 39)
Exit CA SOLVE:Access (see page 42)

EASINET

The EASINET panel enables you to log on by entering your user ID and password details and specifying (by pressing a function key) the application that you want to log on to.

Available applications and the function keys you press to select them are displayed in the grid on the right of the EASINET panel. The status of available applications is shown below the application name. The status of each application is updated each time the panel is refreshed.

The last four lines on the panel are used to display general broadcast messages, for example, information about system maintenance or application availability. These messages can be displayed on the terminal at any time.

Log on Through EASINET

To log on through EASINET

1. Enter your user ID in the User Id field and your password in the Password field.
2. Press the function key associated with the application that you want to log on to.

Depending on how your site has implemented EASINET, you may also be able to enter logon requests through the Command===> prompt on the second line of the panel (for example, when you want to use an application that is not shown on the panel). See your system administrator for details of the format of this logon request.

Get Online Help

To get online help information about the EASINET panel, enter the **HELP** command at the Command===> prompt or press F1 (Help).

MAI Access

Your system administrator defines you as a user to UAMS and provides you with a user ID and password. You use this information to log on to the system.

If your site is using EASINET, log on through this feature (see page 22).
Otherwise, see your system administrator for details of the logon procedure.

Your privilege class and the way that your system has been set up determines the way you access MAI.

The MAI privilege class that is associated with your user ID is set in your UAMS record and controls the access that you have to MAI functions.

About Your Privilege Class

Every MAI user belongs to one of four privilege classes that control access to MAI functions and commands.

Class A users can define new sessions-all other privilege classes are restricted to a set of predefined sessions that are defined for a model user ID.

Note: For further details on how to define a model user ID, see the *Administration Guide*.

The MAI user privilege classes and the access they provide are:

A

Indicates that the user can access all MAI facilities. The MAI Primary menu is displayed on entry to MAI.

Command Access: ALL

B

Indicates that the user is restricted to commands that do not involve adding or changing MAI session definitions. The MAI : Primary Menu is displayed on entry. The user can only establish sessions that are listed on their menu definition. A model session definition must be provided for the user.

Command Access: Limited to commands other than those commands used to define or delete session definitions

C

Is as for a class B user except that sessions are started automatically on entry to MAI and the first session in the list is displayed. The MAI : Primary Menu is accessible. A model session definition must be provided.

Command Access: Limited (as for B)

D

Is as for a class C user except that the MAI : Primary Menu cannot be accessed. A model session definition must be provided for the user.

Command Access: Limited to session commands only

Note: For more information about MAI user privilege classes, see the *Administration Guide*.

More information:

MAI Commands (see page 113)

Start MAI

To start MAI, select the **M - Access Services** option from the CA SOLVE:Access Primary Menu.

When you start MAI, one of the following occurs:

- If you belong to privilege class A or B, the MAI : Primary Menu is displayed, listing the sessions defined for your user ID, enabling you to select the sessions that you want to activate.
- If you belong to privilege class C, your sessions are started automatically and the terminal displays the application associated with the first session. The MAI : Primary Menu appears in the session circle and can be used.
- If you belong to privilege class D, your applications are started automatically and the terminal displays the first application. The MAI : Primary Menu does not appear in the session circle and is not available for use.

Depending on your site, MAI can start automatically after you log on or you need to select a different menu option to start MAI.

Note: The appearance of the CA SOLVE:Access Primary Menu and the MAI : Primary Menu can be customized. This guide refers to the menus as distributed.

Exit MAI

How you exit MAI depends on your privilege class.

To exit MAI with privilege class D, exit from the application associated with each session.

To exit MAI with privilege class A, B, or C, press F3 (Exit) on the MAI : Primary Menu, regardless of whether sessions are active. If you attempt to log off with MAI sessions active, a warning panel is displayed.

Applications that are running under MAI when you exit from the MAI : Primary Menu are not stopped. After you exit, you can use your terminal to perform other functions without disrupting MAI sessions and return to them later by accessing MAI once more. If you exit from MAI in this way, the CA SOLVE:Access Primary Menu displays MAI-FS on the right side of the panel to indicate that one or more MAI sessions are still active.

About the MAI : Primary Menu

The MAI : Primary Menu lists all sessions that are currently defined, and their status. You use the MAI : Primary Menu to view defined sessions, to activate sessions, and enter primary and line commands (see page 30).

Note: MAI treats the MAI : Primary Menu as one of the applications available to the user. This menu is included in the session circle (except for privilege class D users).

The MAI : Primary menu includes a session list that shows the identifier of each session, the session's status, and a brief description of the application associated with the session.

A second panel of the MAI : Primary Menu displays the jump key assignments associated with each session. Press the Right (F10) function key to display the second panel.

This panel displays the following:

- The session identifier.
- The status of each session.
- The function keys that are assigned for jumping forwards and backwards between sessions.
- The function key assigned to display the MAI : Primary Menu.
- The function key assigned as the swap key.
- The node used for this session.

To redisplay the first panel of the MAI : Primary Menu press the Left (F10) function key at the second panel.

More information:

Using MAI Functions (see page 43)

How You Start Sessions

Class A users can start new sessions.

Class A and B users can start defined sessions.

Class C and D users do not need to start sessions explicitly. The sessions are started automatically.

Start a New Session

If you are a class A user, you can start a new session.

To start a new session

1. Enter the **LOGON** or **L** primary command to define a new session and commence using it.

   The MAI : Session panel appears.

2. Specify the session details. At a minimum, make an entry in the Logon Request field that specifies the system you want to log on to, and the user ID and password to use.

3. Press Enter.

   The session starts prompting you to log on.

More information:

Session Definitions (see page 57)

Start Defined Sessions

If you are a class A or B user, you can start the defined sessions in the session list.

To start defined sessions, use *one* of the following methods:

- Enter the **S** line command next to those sessions you want to activate in the session list.

  MAI jumps to the first selected item on the session list.
- Position the cursor anywhere along a row of a session list item, and press Enter.
- If authorized, enter the **A** or **E** primary commands.

  The A command starts all sessions in the session list. The E command starts all sessions in the session list, and hides the primary menu.

The application associated with the first session selected is displayed. From then on, output received from the application is sent to the terminal and input received from the terminal keyboard is passed to the application.

To display another application or the MAI : Primary menu, use jump keys to move between sessions (see page 31).

More information:

MAI Session Navigation (see page 31)

Session Status Information

The status of each session in the session list is displayed next to the session identifier. The status represents the operational state of the session:

< - >

Session is inactive (stopped). You can use the A or S line commands to activate the session.

RUNNING

Session is active. A direct jump will resume processing for this session.

WAITING

The session is being established or is waiting for the application to start.

ENDED

The session has ended. The MAI : Session Ended panel is displayed on the next jump to the session.

NO PATH

The application is not known to MAI. There is no matching DEFLOGON entry for the logon string.

OTHER WIND

The session is active in the other window (press the Swap (F9) function key to display the other window).

HIDDEN

The session is hidden and will not be displayed in the session circle until a direct jump is made to the session.

SLEEP

The session is sleeping and will be automatically reactivated and return to the session circle if data arrives from the application associated with the session.

OUTPUT

Output has arrived from the application associated with this session since it was last accessed.

Terminate a Session

To terminate an MAI session

1. Use *one* of the following methods:

   - Exit the application associated with the session in the usual way (for example, use the EXIT command to end a CA SOLVE:Access session or use the LOGOFF command to end a TSO session).
   - Issue one of the MAI cancel commands against a session in the session list.

     These commands force the session to terminate and are useful under the following circumstances:

     - When the application is hung, and the session cannot be ended in the usual manner.
     - The application does not support a logoff function.
   - Terminate the region that is running MAI by logging off.

     MAI terminates all sessions by force. This type of termination can cause the application to take on a lost terminal condition.

     Note: If a script is associated with a session, and the script is executed when you terminate MAI by logging off, the script can perform a logoff procedure automatically. This implementation avoids the lost terminal condition.

   When a session is terminated, a session end panel is displayed. The panel indicates that the session has ended.

   Note: The display and format of the session end panel can be enabled or disabled by using the MAIPARMS parameter group of the Customizer.

2. (Optional) Press the Enter key to acknowledge the panel.

When you terminate a session, the next application in the session circle, or the MAI : Primary Menu (if no other sessions are active) is displayed. If no additional sessions are active and you are a class D user, you are logged off.

About MAI Primary, Line, and Session Commands

MAI provides commands that can be used to perform MAI functions. The following types of commands are provided:

Session commands

Are commands entered at the beginning of any input field in the current application (or session). The first character of a session command is always a skip character (usually a period) that MAI recognizes so that commands are not treated as data by the application. To use a session command, you type a skip character, followed by the session command, and then press a skip key (usually the F12 and F24 keys).

Your system administrator assigns a default skip character for all MAI sessions. However, the skip character can be changed for a specific session.

Your system administrator also defines skip keys that are standard across all sessions. To view the skip keys, and the default skip character, as defined by your system administrator, use the I line command.

Note: For additional information about defining MAI system parameters, see the *Administration Guide*.

Primary commands

Are commands entered at the Command ===> prompt on the MAI : Primary Menu.

Line commands

Are commands entered to the left of an entry in the session list on the MAI : Primary Menu.

Primary and line commands consist of one or more alphabetic characters or numbers. To enter a primary or line command, type the command in the appropriate input field and press the Enter key.

You use commands to perform common tasks in MAI while using MAI functions (see page 43). Users with a privilege class of A use other commands that are only available to them to manage sessions (see page 57).

More information:

MAI Commands (see page 113)

MAI Session Navigation

This section describes how to move between sessions. To move between sessions in MAI, you use jump keys. Jump keys are function keys that move you forwards and backwards through the session circle. Jump keys can also be used to move to a specified session or to the MAI : Primary Menu.

Jump keys are specified in the session definition. The jump keys that are defined for a specific session depends on which function, ATTN, and PA keys the application associated with the session already uses. You can display the Jump keys associated with a given session by pressing the Right (F10) function key on the MAI : Primary menu.

Primary and session commands are also provided to perform jump functions.

More information:

Session Navigation (see page 48)

Navigation Around the Session Circle

Commands and function keys enable you to jump forwards and backwards through the session circle. The order of the sessions in the session list displayed on the MAI : Primary Menu reflects the order of sessions in the session circle.

You can jump between sessions in the session circle using function keys and commands:

Function keys

The session definition specifies function keys to perform the jump forwards and jump backwards functions. You can press these keys at any time (while in the session for which they have been defined) to jump to the next (or previous) session. Each session can have different function keys assigned for this purpose.

To find the function keys that have been assigned as jump keys, you can do one of the following:

- Scroll right (by pressing the Right function key) on the MAI : Primary menu.
- Use the I (Information) action against a session in the session list.
- Use the .? session command from within a session.

Primary commands

Users that have a privilege class other than D can use the J, JF, and JR primary commands to jump forwards and backwards between sessions.

Session commands

Within a session, you can use the .J, .JF, and .JR session commands to jump forwards and backwards between sessions.

Navigation Directly to a Session

Users that have a privilege class of A, B, or C can jump directly to a specified session in the session circle in one of the following ways:

Note: The session identifier is displayed in the ID column of the MAI : Primary Menu session list.

- To jump directly to a session from the MAI : Primary menu, type the desired session's identifier in the Command===> prompt and press the Enter key.
- To jump directly to a session from within another session, type the skip character followed by the required session's identifier and then press a skip key.

Primary commands and session commands enable you to jump to a specified session, using the session ID or relative number.

You can jump directly to the MAI : Primary menu by entering the .M session command.

Work in Two Windows

You can divide your physical screen into two logical windows. Each window operates independently of the other, enabling you to perform multiple functions concurrently.

To open a second window in the region, press the F2 (Split) or F9 (Swap) function key.

When one window takes up the entire screen, the other window is considered *closed*.

Split Screens

Using the SPLIT command, you can perform the following actions:

- Split your screen horizontally and have one window above the other. Move the cursor to a row where you want to split screens, and press F2 (Split).
- Split your screen vertically and have two windows side by side. Move the cursor to any column on the bottom row, and press F2 (Split).
- Return a split screen to single window display in one of the following ways:
  - Move the cursor to the first line on your screen, and press F2 (Split) to minimize the window. The window containing the cursor disappears, and the other window expands to full size.
  - Enter **=X** to exit one of the windows. Your session with that window ends.

Swap Screens

Swapping enables you to switch between two windows. Using the SWAP command, you can perform the following actions:

- Reverse the dimensions of the active window if you have two windows open and both are visible on the screen, and switch between them.
- Open a second full-screen window if you are currently operating with a single window open, and then switch between them.
- Make the other window active and visible (when you have another window open but only the current window is visible on the screen).

To swap to another CA SOLVE:Access window from within a session, enter **.SW** at any application input field in a session and press a skip key.

Function Key Assignments for MAI

Commonly used commands can be assigned to function keys. Function keys provide a convenient means of entering commonly used commands. You simply press the function key that has the command you want to use assigned to it.

Twenty-four possible function keys are available for assignments. The first 12 (F1 to F12) are referred to as the standard function keys; F13 to F24 are referred to as the alternate function keys.

The standard function keys are reserved for use by the application and cannot be changed—the application determines the commands assigned to these function keys. You can assign your own commands to the alternate function keys as described in the following sections.

MAI Function Key Assignments on the Primary Menu

Function keys are assigned special values when used from the MAI : Primary Menu. The following shows how the function keys are assigned:

F1 or F13

Provides access to the on-line help facilities of MAI.

F2 or F14

Standard SPLIT key.

F3 or F15

Standard EXIT key.

F7 or F19

Scroll backwards through the selection list on the MAI : Primary Menu.

F8 or F20

Scroll forward through the selection list on the MAI : Primary Menu.

F9 or F21

Standard SWAP key.

F10 or F22

Toggle menu page display. Press this key to change between page 1 and page 2 of the MAI : Primary Menu.

F11 or F23

Hide the menu and jump. The MAI : Primary Menu is removed from the session circle and a jump to the next application is made. The jump is in the current direction, which means in the same direction as the last jump which explicitly nominated a direction forward or backward.

Assign Commands to Function Keys

To assign commands to alternate function keys

1. Enter the KEYS SET command in the command line.

   The CAS : Alternate Keys Set panel is displayed.

2. Type the command that is being assigned to a function key in the Action field, immediately to the right of the function key name.

   If you specify a session ID as a command, that key can be used to access that session on the MAI : Primary Menu.

3. Press the TAB key until the cursor is at the Label field and enter the name (label) that you want displayed with the function key.

   If you leave the Label field blank, it defaults to the first eight characters of the action.

4. Press the File (F3) or Save (F4) function key.

Display Alternate Function Keys

To display the alternate function key set (F13 through F24), enter **KEYS ALT** in the Command===> prompt.

Keys that have not been assigned a command default to the same values as standard function keys.

Switch the Display of Standard and Alternate Function Keys

To switch the function key display, enter **KEYS** in the Command===> prompt.

If the standard function keys are displayed, this command displays the alternate function keys and conversely. If the display of function keys has been turned off, this command displays them again.

Display Standard Function Keys

To display the standard function keys (F1 through F12), enter **KEYS PRI** in the Command===> prompt.

You can also use the KEYS command.

Turn the Display of Function Keys Off and On

To turn off the display of function keys, enter **KEYS OFF** in the Command===> prompt.

To turn on the display of function keys, enter the **KEYS ON** command.

You can also use the KEYS ALT and KEYS PRI commands to display the function keys after they have been turned off.

Note: Function keys (if they have been assigned a command) can be used whether they are displayed or not.

Inactivity Time-Out

Two inactivity time-out periods control how long a terminal or session can be idle before it times out. Your administrator sets the length of the intervals and the action that is taken when the interval elapses.

Terminal Inactivity Time-Out

When your terminal has been idle, your administrator can define an action to be performed. These actions are as follows:

- Sound the terminal alarm.
- Lock the terminal.
- Disconnect your session.
- Cancel your session.

There are two time-out periods, so the first action may be the sounding of the alarm.

Session Inactivity Time-Out

Your administrator can define an inactivity time-out period that applies to the use of an application. This time period commences from the time that a data stream arrives that unlocks the keyboard, or when any terminal input or output is seen. If a user, or script, fails to respond within the time-out period, a defined time-out action is performed. The action can be any of the following:

- The session is canceled unconditionally.
- The session is conditionally canceled. (For some applications, you are able to reconnect when the session is restarted.)
- A message is logged indicating the occurrence of a time-out, and the time-out action or reason.
- The script associated with the session (if defined) is executed in END mode. If a script is not defined or the script fails, the session is canceled.

Online Help for MAI

Online help is provided at the following levels:

Application

Provides an overview of MAI.

Function

Provides help on a specific panel.

Session

Provides information about the current session.

Display Application Level Online Help

Application level online help is accessed from the MAI : Session Information panel. Your system administrator can customize application level help making it specific to any or all sessions listed in the MAI : Primary Menu.

Note: For information about customizing MAI application level online help, see the *Administration Guide*.

To display application level help

1. Access the MAI : Session Information panel in *one* of the following ways:
   - On the MAI : Primary Menu, enter **I** (Information) next to a session in the session list.
   - From within a session, enter the session skip character (usually a period) followed by a question mark (?) and then press the skip key (usually F12).
2. Press F6 (ApplHelp).

   The application level online help appears.
3. Exit from the displayed application level online help, and return to the MAI : Primary Menu (or session application):
   a. Press the F3 function key or enter the **EXIT** command in the application level online help.
   b. Press the F3 function key or enter the **EXIT** command in the MAI : Session Information panel.

Display Function Level Online Help

To display function level online help

1. Enter the **HELP** command, or press the F1 (Help) function key on the panel you are using to perform the function.

   Additional topics of online help can be included within the displayed function level online help panel.

2. (Optional) Enter **S** next to the desired topic.

   The topic appears.

3. Exit the function level online help using *one* of the following methods:

   - Press the F3 (Exit) function key to move to the previous level of online help or to exit the online help facility.
   - Press the F4 (Return) function key to exit from the online help and return to the application.

Display MAI Session Information

The MAI Session Information displays the configuration of a session.

To display MAI session online help

1. Access the MAI : Session Information panel in *one* of the following ways:

   - On the MAI : Primary Menu, enter **I** (Information) next to a session in the session list.
   - From within a session, enter the session skip character (usually a period) followed by a question mark (?) and then press the skip key (usually F12).

2. To exit the MAI : Session Information panel, enter the EXIT command or press the F3 function key.

Get Online Help on an Error Message

To display the online help on error messages (displayed on the third line of a panel), position your cursor on the error message and press the F1 (Help) function key.

Exit CA SOLVE:Access

To exit CA SOLVE:Access, enter the **EXIT** command or press the F3 function key at the CA SOLVE:Access Primary Menu.

If you attempt to exit from the Primary Menu while MAI sessions are active, a warning panel can appear that enables you to cancel the exit.

Note: Depending on how your system has been configured, you may be prevented from exiting with sessions running or you may be allowed to exit without any warning message.

Chapter 3: Using MAI Functions

This section contains the following topics:

MAI : Primary Menu (see page 43)
Change the Skip Character (see page 45)
Move Sessions in the Session List (see page 46)
Session Activation (see page 46)
Session Navigation (see page 48)
Sessions, Hiding and Sleeping (see page 53)
Key Simulation (see page 54)
Session Scripts (see page 55)
MAI Warning Messages and Alarms in Operator Console Services (see page 56)

MAI : Primary Menu

The MAI : Primary menu is the principal interface to MAI for privilege class A, B, and C users. Commands can be executed against listed sessions, and session definitions can be modified and created. This section describes the menu in detail and discusses the actions that can be applied to session definitions in the session list.

The following information is displayed on the MAI : Primary Menu (first panel):

---ID---

Identifies the session. A session ID can represent running applications, applications yet to be activated, or applications once active but now ended, as indicated by the Status field.

Status

Displays the status for each session.

Application

Describes the application.

The MAI : Primary Menu consists of two panels. To see the second panel, press the Right function key (F10).

The second panel of the MAI : Primary menu shows the function keys that are assigned for the session and includes the following information:

Forward

Identifies the attention keys, if any, which jump in a forward direction from this session to the next in the session circle.

Reverse

Identifies the attention keys, if any, which jump in the reverse direction from this session to the next (in the reverse direction) in the session circle.

Menu

Identifies the attention keys, if any, which jump directly from this session to the MAI : Primary Menu.

Swap

Identifies the attention keys, if any, which jump directly from this session to another window.

Node

Identifies the network resource used by MAI on this session. This value is the VTAM ACB name that is simulating a terminal for the application on this session. If MAI ACB sharing is in effect, this name can appear more than once in the session status list.

Perform Actions Against Sessions in the Session List

The actions that you can do against items in the session list on the MAI : Primary Menu are also referred to as line commands.

To use a line command (do an action), enter the line command mnemonic next to an item in the session list.

Hide the Primary Menu

To hide the MAI Primary Menu, enter the **H** primary command.

The menu is not included in the session circle.

To redisplay the Primary Menu, press the jump key that displays the menu, or enter the **.M** session command within a session and press a skip key.

More information:

Activate All Sessions and Hide the Primary Menu (see page 47)
Hide the Primary Menu and Jump to a Session (see page 50)

Change the Skip Character

MAI searches for the skip character to identify session commands (see page 30).

Your system administrator defines a default skip character that is valid for all sessions displayed on the session list of the MAI : Primary Menu. The .S*c* command, described in this section, enables you to change the skip character for an application where the default skip character conflicts with an application command. This command is issued from within the selected session application and skip characters can vary from session to session. The skip character change is removed when you end the session, and the skip character reverts to the default when you next open the session.

To change the skip character for a selected session, issue the **.**Sc command.

.

Is the current skip character.

c

Specifies the new skip character.

Limits: Non-alphanumeric

Move Sessions in the Session List

You can change the order of sessions in the session circle by using the B and T line commands against entries in the session list on the MAI : Primary menu.

To move a session to the bottom of the session list, enter **B** next to the session.

To move a session to the top of the session list, enter **T** next to the session.

Session Activation

A session is said to be inactive if it appears in the session list on the MAI : Primary Menu with a status of <->, indicating that it is not operative. Activating a session is the same as starting the session, except that MAI does not necessarily jump to the activated session.

The A (Activate) line command enables you to activate a specified session in the session list on the MAI : Primary Menu. The A primary command enables you to activate all sessions and the E primary command enables you to activate all sessions and hide the primary menu.

Note: The ability to activate all sessions, or to activate all sessions and hide the primary menu, can be restricted to specific user IDs. The A and E Commands field on the UAMS : MAI Details panel controls this restriction. For more information about the UAMS : MAI Details panel and the A and E Command fields, see the online help.

Activate a Specific Session

To activate an inactive session in the session list on the MAI : Primary Menu, enter the **A** (Activate) line command against the inactive session.

MAI does not jump to the activated session.

If the session definition is in error, the MAI : Session panel is displayed, enabling you to make the necessary corrections.

Activate All Sessions

The A (Activate all sessions) primary command is useful when you first enter MAI and want to initialize the MAI working environment. The command can, however, also be used whenever inactive sessions are present in the session list. Sessions that are already active are unaffected by the command.

This command can be restricted to specific user IDs (see page 46).

To activate all sessions displayed in the session list on the MAI : Primary Menu, enter the **A** primary command.

All sessions in the session list are activated, and MAI jumps you to the first session listed in the session list.

If any session definitions are in error, the MAI : Session panel is displayed for each of those sessions enabling you to make the necessary corrections.

Activate All Sessions and Hide the Primary Menu

The E (Activate all sessions and hide the primary menu) primary command lets you activate all sessions displayed in the session list on the MAI : Primary Menu and hide the MAI : Primary Menu.

This command can be restricted to specific user IDs (see page 46).

To activate all sessions and hide the Primary Menu, enter the **E** primary command.

All sessions in the session list are activated, MAI jumps you to the first session listed in the session list, and the primary menu is hidden (removed) from the session circle.

If any session definitions are in error, the MAI : Session panel is displayed for each of those sessions enabling you to make the necessary corrections.

To redisplay the hidden MAI : Primary Menu, press the menu jump key or use the **.M** session command from within a session.

Session Navigation

This section describes the commands and function keys available for navigating between sessions in the session circle.

The order of sessions in the session circle is based on the order of sessions in the session list on the MAI : Primary Menu. You can move sessions to change the session order (see page 46).

Jump Forwards

To jump to the next session in the session circle, do *one* of the following:

- Press the Forward jump key that is defined for the session.
- Enter the **JF** primary command at the Command ===> prompt on the MAI : Primary Menu.
- Type the **.JF** session command in any field in a session, and press a skip key.

Jump Backwards

To jump to the previous session in the session circle, do *one* of the following:

- Press the Reverse jump key that is defined for the session.
- Enter the **JR** primary command at the Command ===> prompt on the MAI : Primary Menu.
- Type the **.JR** session command in any field within a session, and press a skip key.

Jump in the Current Direction

The current direction is set based on the last jump made that specified a direction.

To jump to the next session in the current direction, do *one* of the following:

- Press Enter at the MAI : Primary Menu, without entering any data at the Command ===> prompt or any of the session line command fields.
- Enter the **J** primary command at the Command ===> prompt.
- Type the **.J** session command in any field in a session, and press the skip key.

Jump to a Specific Session

To jump to a specific session, do *one* of the following:

- At the MAI : Primary Menu, do *one* of the following:
  - Enter the session identifier of the desired session at the Command ===> prompt.
  - Enter the **S** (Select) line command next to the desired session in the session list on the MAI : Primary Menu.
  - Place your cursor anywhere on the line of the desired session in the session list on the MAI : Primary menu and press Enter.
- In a session, type the skip character followed by the session identifier and press the skip key.

If the specified session is active, MAI displays the last panel that was presented in that session. If the session is inactive, it is started and MAI jumps to that session.

Jump to a Relative Session

The sessions in the session list on the MAI : Primary Menu can be regarded as being numbered from one onwards, in the order in which the sessions appear in the list. This number is referred to as the session's relative number.

To jump to a relative session, do *one* of the following:

- Enter the relative number of a session at the Command ===> prompt on the MAI : Primary Menu.
- In a session, type the session skip character followed by a relative number and press the skip key.

If the specified session is active, MAI displays the last panel presented in that session. If the session is inactive, it is started and MAI jumps to that session.

Hide the Primary Menu and Jump to a Session

To hide the MAI Primary Menu and make a jump to the next session in the current direction, enter the **H** primary command.

The menu is removed from the session circle, and the next session in the current direction is displayed.

To redisplay the menu, press the menu jump key or use the **.M** session command from within a session.

Jump to the MAI : Primary Menu

To display the MAI : Primary Menu (unless you are a class D user), use *one* of the following methods:

- Press the MAI Menu function key that is defined for a session.
- Enter the **.M** session command, and press the skip key.

If the menu was previously hidden (that is, removed from the session circle), it is included in the session circle once again.

Session Jumping From a Locked Terminal

When you press the Enter key to enter data, your terminal is locked until the application you are using transmits a signal back to the terminal to unlock it. MAI provides you with the facility to unlock a terminal waiting for a data response from a running application, and jump to another application. Two methods of unlocking terminals are available to users, depending on the type of communications session running on your terminal.

The communication session determines the availability of terminal keys. There is an easy way to recognize what type of communications session you are using, and therefore what terminal keys are supported by that session. Either type of communications session displays a different type of message in the Operator Information Area of your terminal's display when the terminal is locked. The two types of messages displayed are the X SYSTEM message, or the X message. If, when your terminal is locked, an X SYSTEM message is displayed, the RESET key alone is supported. If, when your terminal is locked, an X message is displayed, the ATTN and RESET keys are supported.

Use the following to determine what actions are required to jump to another session in the session circle, or execute a session command if your terminal is locked.

RESET Key

Press the RESET key then press a jump or skip key.

ATTN Key and RESET Key

Press the ATTN key then press a jump or skip key.

ATTN Key assigned as a jump key

Press the ATTN key.

Note: You may execute a session command by typing a session command at any application input field (if available) after your terminal is unlocked, and pressing a skip key.

RESET Key

When you press the Enter key at your terminal, the terminal is locked until the application responds. If your terminal does not support the ATTN key, you unlock your terminal by pressing the RESET key. From a locked terminal in an MAI environment, you can jump to another session by pressing the RESET key, and then a jump key or skip key.

Unlocking and jumping to another session can increase your productivity by enabling you to access multiple applications at any time from the one terminal.

For example, you have started a long CICS transaction on an MAI session. Instead of waiting for the transaction to end and the results to appear on the screen, you can press the RESET key, and a jump key, or skip key. MAI jumps from the CICS session to the next session in the MAI session circle. You can then do work on that session. When output arrives from the CICS session, the status *OUTPUT* is displayed on the MAI : Primary Menu. If you return to the CICS session before the results arrive, the screen is restored to its pre-jump state and the keyboard is again locked.

ATTN Key

When you press Enter at your terminal, the keyboard is locked until the application responds. Pressing the ATTN key sends a data stream to the application signaling that you want it to act. For example, in a TSO session, you can press the ATTN key to interrupt a process.

Note: If the communication session supports both the ATTN and RESET keys, **t**he RESET key does not unlock a terminal.

Normally, the ATTN key unlocks the terminal and sounds the terminal alarm. In an MAI environment, the initial press of the ATTN key unlocks the terminal and sounds the terminal alarm. However, if the ATTN key is pressed again, with no intervening input or output, the ATTN key data stream is passed to the application.

The ATTN key can be defined as a jump key in an MAI environment. If the ATTN key is defined as a jump key, pressing the key results in an immediate jump to the next session in the session circle. The application does not receive the data stream associated with the ATTN key as MAI intercepts the stream and does not pass it to the application. To send the ATTN key data stream to the application, with the ATTN key defined as a jump key, use the .ATTN session command.

In summary, if the ATTN key is an assigned jump key and you want to jump to another session, press the ATTN key. If the ATTN key is not an assigned jump key and the terminal is locked, then to jump to another session, press ATTN followed by an assigned jump key.

Sessions, Hiding and Sleeping

Hiding and sleeping commands enable you to remove sessions from the session circle, without inactivating them.

A session that is hidden is removed from the session circle until you jump specifically to that session. A session that is sleeping is removed from the session circle until output arrives for the application associated with the session.

Sessions that are sleeping, or hidden, remain active and are displayed on the MAI : Primary Menu but are not visible when navigating the session circle using jump keys.

To bring these sessions back into the session circle, you jump directly to the desired session.

Hide a Session

To hide a session, do *one* of the following:

- Enter the **H** (Hide) line command next to a session in the session list on the MAI : Primary Menu.
- Type the **.H** session command at any field in a session, and press the skip key.

When navigating the session circle, the session is not displayed. The status on the MAI : Primary Menu indicates that the session is RUNNING but also HIDDEN.

To redisplay a session that has been hidden, jump directly to the desired session.

Place a Session into Sleep Status

A session that is sleeping is not visible when navigating the session circle using jump keys. When output arrives from the application associated with the session, however, the session becomes visible in the session circle once more.

To place a session into sleep status, do *one* of the following:

- Enter the **SL** (Sleep) line command next to a session in the session list on the MAI : Primary Menu.
- Type the **.SL** session command at any field in a session, and press the skip key.

  A jump in the current direction occurs.

To redisplay a session that is sleeping before output arrives, jump directly to the desired session.

Key Simulation

You can simulate a key that has been allocated as a jump key for a session but is also used by the application.

MAI enables you to simulate such a key through session commands. A data stream corresponding to the key is sent to the application, as if that key had been pressed.

Simulate the ATTN Key

Use the .ATTN session command to simulate the ATTN key.

To simulate the ATTN key, type **.ATTN** at any field in a session and press a skip key.

Simulate the Fnn Key

Use the .F*nn* session command (where *nn* is the number of a function key in the range 1 through 24) to simulate the specified function key.

To simulate an F*nn* key, type **.F***nn* at any field in a session and press a skip key.

Simulate the PAn Key

Use the .PA*n* session command (where *n* is a number in the range 1 through 3) to simulate the specified PA key.

To simulate a PA*n* key, type **.PA***n* at any field in a session and press a skip key.

Session Scripts

A session can have a script associated with it. A session script is an NCL procedure that you define which does specialized processing for a session. The identifier of a script associated with a session is specified through the MAI : Session Details panel.

A session script can be executed at the following times:

- When a session starts
- When you enter the .S session command in a session
- When a session is force-terminated

Note: For information about session script development, see the *Administration Guide*.

Start a Session Script

A session script can be started at any time (if it is not already running).

To start a session script, type the following command and press a skip key:

```
.S [script_parameters]
```

Display Session Script Output

Scripts can produce messages by enabling an NCL or data stream trace or by writing messages explicitly through the &WRITE verb. Displaying these messages provides a convenient debugging tool for session script development.

To display any line messages produced by a script, enter the **SHOWMSG** primary command.

MAI Warning Messages and Alarms in Operator Console Services

If you are using OCS while MAI sessions are active in other windows, a warning message is sent to the OCS window when output arrives on any of the MAI sessions. The warning message indicates the session to which it applies. You can use the Swap function key or session command to display the other window and view the output.

If you are running OCS in a window that is closed, you can be notified of the arrival of a message through a terminal alarm. You can use the PROFILE MSGALARM command to control the number of times that the alarm sounds if a message arrives when the OCS window is closed.

Note: For additional information about the PROFILE MSGALARM command, see the online help.

Chapter 4: Managing Sessions

This section contains the following topics:

Session Definitions (see page 57)
Session Creation (see page 63)
Modify a Session (see page 64)
Cancel a Session (see page 64)
Session Deletion (see page 65)
Store Session Definitions (see page 66)
Model Session List (see page 66)

Session Definitions

Use the MAI : Session panel to define and modify session definitions. A session definition specifies the application associated with the session and other control information. To define a session, you specify the following information:

- A session identifier
- The logon request for the session
- Jump keys
- Session control information

Only a user that has an A privilege class can maintain session definitions and store the definitions for reuse.

Use the MAI : Session panel to specify session details and session operation parameters.

The session panel is presented under the following circumstances:

- When you issue the L or LOGON primary command from the MAI : Primary Menu to establish a new session.
- When you issue an U (Update) or M (Modify) line command against a session definition.
- When an error occurs during the establishment of an MAI session or an error exists in the stored definition.

Each of the displayed MAI : Session Panel fields are described as follows:

Session Id

Specifies an identifier for the session. Commands and messages use this identifier. Make this identifier as meaningful as possible.

Default: $APPL*n* where n is an identifying number

Limits: One through eight characters

Logon Request

Specifies a string that identifies the application to which you want to log on and any additional information to pass to the application as a logon request.

Range: 50 characters

Jump Keys

Use the fields in this section to define the jump keys for use by this session. Valid values for each of the following fields are ATTN, PA1 through PA3, and F1 through F24.

Forward Keys

Used as forward jump keys.

Reverse Keys

Used as reverse jump keys.

MAI Menu Keys

Used to display the MAI : Primary Menu.

Swap Keys

Used to jump to the other window when operating in split-screen mode.

Screen Print Key

Used to print the current screen image by jumping to the Print Screen option of the Screen Image Services (SIS) Menu.

SIS Menu Key

Used to display the Screen Image Services (SIS) Menu.

Session Characteristics

Use the fields in this section to define session control characteristics.

Wait if inactive?

Specifies whether MAI waits if the target application is unavailable. MAI will, by default, abandon an attempt to start a session if the application associated with it is unavailable.

If you specify Y in this field, MAI waits indefinitely for the application to start.

Note: Specifying Y is only applicable if the application with which the session is established is prepared to acquire sessions or recover sessions after they have failed.

While MAI is waiting for connection to the session, the status displayed on the MAI : Primary Menu is WAITING. You can cancel a waiting session by using the C (Cancel) command against the session definition in the session list on the MAI : Primary Menu.

Default: N

Restart at end?

Specifies whether MAI attempts to recover a session that has ended (rather than abandoning it). If you specify Y in this field, MAI maintains the session environment when the session ends and attempts to reconnect the session to the application.

Default: N

Fast Jump?

Specifies whether MAI suppresses the read-buffer operation when jumping from the session if no I/O operations have been performed on the session since it was last selected. If you are operating from a remote terminal (that is, a terminal attached to a telecommunications line), specifying Y in this field can provide a significant improvement in performance. Unless you are using a remote terminal, you specify N in this field.

Default: N

Compress?

Specifies whether MAI performs compression (optimization) of data streams transmitted to the terminal, regardless of the actual data stream generated by the target application. Enter Y to specify compression.

Default: Y

Logmode

Specifies the name of a logmode table entry. When a session is started, MAI sets a particular set of session bind parameters automatically. Use this field when you want to nominate a set of bind parameters other than the defaults chosen by MAI.

Node Name

Specifies a network resource name that is referred to as a node name.

If you want the target application to regard the session request as originating from a terminal with a particular name, you can specify that name in this field. However, you site must have defined this name previously.

Script Name/Parms

Specifies the name of an NCL procedure that is executed as the script for this session. This script can be executed at session start, explicitly through the .S session command, and under certain forced termination conditions. You can specify any parameters required by the script after the script name.

Logon Request

You specify the DEFLOGON name, user ID, and password in the Logon Request field.

You can use the &USERID and &USERPW system variables to provide your user ID and password.

If your system administrator has set SYSPARMS USERPW to VERIFY and the &USERPW variable is included in the Logon Request field, you are prompted to enter your password after the initial setup of, and any additional update to, the Logon Request field. Password verification enhances MAI security.

Example: Logon Request

NETMGT &USERID &USERPW;Network Management Region

NETMGT

Is the DEFLOGON name.

&USERID

Is the system variable for the user's user ID.

&USERPW

Is the system variable for the user's password.

;

Is the separation character that specifies the start of the session description string.

Network Management Region

Is the session description string.

Session Description String

You can specify a session description string in the logon request. This string is displayed after the session identifier in the session list. You separate the logon request with a separation character (see the example in the previous section). The default is a semi-colon, but your site can change this character. If the separation character is the first character in the logon request string, then all succeeding characters serve both as the logon request and the session description. The password, however, is not displayed in the session description.

If a session description string is not provided, any description string associated with the application are displayed as a default.

Jump Keys

The keys you specify as jump keys are determined by the type of session you are establishing and the way the application associated with the session uses function keys.

An application cannot use a function key that has been defined as a jump key because MAI intercepts the keypress first. In some sessions, you may not be able to define more than one jump key if the application makes heavy use of function keys.

Consider the following when choosing jump keys for a session:

- Specify the same jump keys for a group of sessions. This choice makes it easier to remember the jump keys. At least, make jump keys for each type of session the same, for example, for all TSO or CICS sessions.
- The ATTN key (if your keyboard has one) makes a good jump key because it is conveniently located on the keyboard and most applications use that key infrequently.
- Specify forward and backward jump keys that are next to each other on the keyboard (for example, F10 and F11, or PA1 and PA2).
- If your keyboard has 24 function keys, you can use F13 through F24 as jump keys to avoid conflicts if the application uses function keys F1 to F12.

Note: For additional information about setting jump keys, see the section about optimizing session jumping in the *Administration Guide*.

Session Creation

You can create a session definition in *one* of the following ways:

- By using the LOGON command to create a definition
- By copying an existing definition in the session list using the R (Repeat Line Entry) line command

Each of these methods is described in the following sections.

Create a Session Using the LOGON Command

To create a session definition

1. Enter the **L** or **LOGON** primary command.

   The MAI : Session panel (see page 57) is displayed.

2. Specify session details. Specify a logon request in the Logon Request field. You can leave the remaining fields on this panel with their default values.

Copy an Existing Session Using the Repeat Line Entry Command

To copy a session's definition

1. Enter the **R** (Repeat Line Entry) line command next to the session definition in the session list on the MAI : Primary Menu.

   The MAI : Session panel is displayed.

2. Modify the details of the copied definition. Specify at least a unique session identifier for the new session definition.

Modify a Session

Important! If you modify a stored session definition, the changes you make are not stored permanently and are lost between invocations of MAI. If you want to store the changes permanently, use the U (Update) command.

To modify a session

1. Enter the **M** (Modify) command next to the desired session in the session list on the MAI : Primary Menu.

   The MAI : Session panel is displayed

2. Make the required changes. Press Enter to save your changes or F3 (Cancel) to discard them.

Cancel a Session

To cancel a session, use *one* of the following line or session commands:

C, .C, CU, or .CU

Sends an unconditional cancellation request for the session to the application.

CC or .CC

Sends a conditional cancellation request for the session to the application.

CF or .CF

Sends a forced cancellation request for the session to the application.

Each of these commands cause a lost terminal condition for the application associated with the session. The type of lost terminal condition varies with the type of cancellation request, and the application can take different actions accordingly.

For example, a conditional or forced termination of a TSO session leaves a reconnect environment for the user ID, pending a logon reconnect, whereas an unconditional termination logs off the user.

When a session is canceled, its status is set to ENDED. MAI jumps to the session and displays an MAI : Session panel that indicates that a session has completed. The display of this panel can be disabled.

More information:

Terminate a Session (see page 29)

Session Deletion

You can purge or delete a session definition from the session list on the MAI : Primary Menu, as described in the following sections.

Note: You cannot purge or delete a session that is in use.

Purge a Session from the Session List

A session that is purged is removed from the stored definitions list until you log off and is included on the stored session definitions list when you next log on.

To purge a session definition from the session list on the MAI : Primary Menu, enter the **P** (Purge) line command next to the definition.

Delete a Session from the Session List

A session that is deleted is removed from the stored session definitions list and is not included in the list when you next log on.

To delete a session definition from the session list on the MAI : Primary Menu

1. Enter the **D** (Delete) line command next to the definition.

   The MAI : Confirm Session Deletion panel is displayed.

2. Press Enter to delete the session, or press F3 (Cancel) to cancel the deletion.

Store Session Definitions

When you use LOGON or MODIFY to create or change a session definition, it is not stored until the U (Update) line command is executed against the session. The session definition must be stored for the changes to be available when you next log on and use MAI.

To store a session definition

1. Enter the **U** (Update) line command next to the definition.

   The MAI : Session panel is displayed.

2. If you do not want to change but do want to store the definition, press F3 (File). If you want to change the definition, update the appropriate fields and press Enter.

   The definition is stored and is included in the session list on the MAI : Primary Menu each time you use MAI.

Model Session List

Users can share a common set of MAI session definitions. Sharing achieved by allocating a new MAI user ID, or modifying an existing one, so that it contains the desired set of session definitions. Other MAI users are then associated with this user ID as a model, which means that they are given read only access to the session definitions.

Note: For more information about modeling session definitions, see the *Administration Guide*.

Chapter 5: Managing Screen Images

This section contains the following topics:

Access the Screen Image Services : Primary Menu (see page 68)
MAI-Screen Image Services Session Commands (see page 69)
Screen Image Services Jump Keys (see page 69)
Screen Images, Capturing and Storing (see page 69)
Screen Image Lists (see page 71)
Screen Images, Printing (see page 73)
Data Copying to Other Screens (see page 76)
Screen Images, Sending and Receiving (see page 78)

Access the Screen Image Services : Primary Menu

You can access the Screen Image Services : Primary Menu from an application with an established MAI session.

To access the menu, type the **.PM** session command at the application input field and press the skip key.

The Screen Image Services : Primary Menu is displayed.

The following options are available in the Screen Images Services : Primary Menu:

S - Save Screen to SIS Image Queue

Lets you save the session screen image as a text file.

D - Display SIS Image Queue

Lets you display the Screen Image Services : Screen Image List.

P - Print Screen Image

Lets you print a screen image.

PQ - Print SIS Image Queue

Lets you print the screen images saved to the Screen Image Services : Screen Image List.

T - Send Screen Image to another user

Lets you send a screen image to another user.

DQ - Delete SIS Image Queue

Lets you delete the SIS : Screen Image List.

RP - Replace Active Screen Image

Lets you paste data from the clipboard.

RS - Save Screen Image into Storage

Lets you copy a screen to the clipboard.

N - Save Screen Image into Notepad

Lets you save a screen image into the Common Application Services (CAS) notepad.

X - Exit

Exits you from the Screen Image Services : Primary Menu.

MAI-Screen Image Services Session Commands

The MAI-Screen Image Services session commands provide the same functionality as that provided by the Screen Image Services : Primary Menu options. However, two additional session commands are available, .PM and .P. Either of these session commands can be used to invoke the Screen Image Services : Primary Menu.

All session commands must be typed into an application input field of an application with an established MAI session. To use an MAI : Screen Image Services session command, at an application input field, type the MAI session command and press a skip key. For example, type **.PM** and press F12. The period (.) is the default skip character, and the F12 function key is a skip key.

Note: Your system administrator specifies the default skip character and skip key. A period (.) skip character is used when discussing session commands here.

More information:

About MAI Primary, Line, and Session Commands (see page 30)

Screen Image Services Jump Keys

You can assign Screen Image Services print and menu options as jump keys to your session.

- Press the assigned function key to invoke the SIS function.
- Use the .? session command or I line command to view the keys assigned for your session.

Screen Images, Capturing and Storing

MAI-Screen Image Services allows you to capture and store screen images in:

Screen images list

Save screen images to the screen image list.

Clipboard

Copy a screen image to the clipboard.

Common Application Services (CAS) notepad

Copy a screen image to the CAS notepad.

Store Screen Images in a Screen Image List

You can capture and store screen images in the SIS : Screen Image List from the Screen Image Services : Primary Menu, or by using the .PS session command at any application input field. Screen images stored in a screen image list are stored permanently until deleted by you.

To store a screen image in a screen image list, in an application input field of the screen you want to capture, type **.PS** and press the skip key.

The screen image is saved to a screen images list.

Store Screen Images in the Clipboard

You can capture and store screen images in the clipboard from the Screen Image Services : Primary Menu, or by using the .PRS session command at any application input field. Only one screen image can be stored in the clipboard at any one time. The image is lost from the clipboard when you exit MAI, and each image saved to the clipboard overwrites the previous image.

To store a screen image in the clipboard, in an application input field of the screen you want to capture, type **.PRS** and press the skip key.

The screen image is saved to the clipboard.

Store Screen Images in the CAS Notepad

You can capture and store screen images in the CAS notepad from the Screen Image Services : Primary Menu, or using the .PN session command at any application input field. The image you copy to the notepad can only be retrieved in the region where you initiated MAI, and the CAS notepad is cleared when you exit that region.

To store a screen image in the CAS notepad, in an application input field of a screen you want to capture, type **.PN** and press the skip key.

The screen image is saved to the notepad.

Screen Image Lists

MAI-Screen Image Services allows you to save screen images to a SIS : Screen Image List. If you save screen images from different terminal model types, MAI-Screen Image Services creates an SIS : Screen Image List for each terminal model type.

Screen Images Captured from a Single Terminal Model Type

If you capture screen images from a single terminal type, a single screen image list is created. You can perform various actions against the list such as, printing a listed screen image, displaying a listed screen image, among others.

The following SIS : Screen Image List Line commands can be used against a listed screen image:

A

Displays images automatically starting from the line where the command is entered.

D

Deletes selected image.

H

Display of the selected image data stream in hexadecimal format.

P

Prints the selected image.

PA

Prints all images in sequence starting at selected image to the end of the image queue.

S

Displays the selected screen image.

T

Transfers the selected screen image according to the menu options.

TA

Transfers all images in sequence starting at selected image to the end of the image queue.

Screen Images Captured from Different Terminal Model Types

If you capture screen images from different terminal model types, multiple screen image lists are created. These multiple screen image lists are accessed from an SIS : Stored Screen Images panel. An example of an SIS : Stored Screen Images panel is shown in the following. You can perform various actions against the listed stored screen images such as printing an image list and displaying a stored screen image list, among others.

Note: This panel is not displayed if all screen images have been saved with the same terminal model type.

In the Stored Screen Image panel, the Luname (Logical Unit name) column lists the name of each terminal. The Cnt column lists the number of screen images saved for each terminal of a particular model type. For example, there are two screen images in the image queue for images saved from the terminal whose name is T12A7W.

The same terminal (Luname) can occur more than once in the selection list. This situation occurs if an image was stored while a terminal was in session with the SOLVE region as a Model 4 with 43 lines and at some other time the same terminal established a session as a Model 2 with 24 lines. For example, there are two listings for terminal T12A7F in the SIS : Stored Screen Images panel.

The following SIS : Stored Screen Images Panel Line commands can be used against a stored screen image list:

D

Deletes the selected image list.

P

Prints all images for the selected image list.

T

Transfers all images for the selected image list.

S

Displays selected image list.

Access a Screen Image List

You can access a screen image list from the Screen Image Services : Primary Menu or using the .PD session command at an application input field.

To display a screen image list from an application input field

1. At any application input field, type **.PD**, and press a skip key.

   If all screen images have been saved from one terminal model type, the SIS : Screen Image List is displayed.

2. Enter **S** next to an SIS : Stored Screen Images listing.

   An SIS : Screen Image List is displayed. You interact with this list through the line commands.

Delete a Screen Image List

You can delete a screen image list from the Screen Image Services : Primary Menu, or by using the .PDQ session command at an application input field.

To delete a screen image list

1. At any application input field, type **.PDQ** and press a skip key.

   The D line command is displayed next to the first listing, prompting for confirmation.

   Note: If you do not want to delete the first listing, remove the D line command from the first listing, and enter **D** next to any listing you want to delete.

2. Press Enter.

   The listing is deleted.

Screen Images, Printing

MAI-Screen Image Services allows you to print the following:

- Stored screen images
- The displayed screen image

Select a Printer

MAI-Screen Image Services allows you to specify a printer name and printer type at the Screen Image Services : Primary Menu in the Printer Name and Printer Type fields, as shown in the following. If no printer type is specified in the Screen Image Services : Primary Menu when printing using MAI-Screen Image Services, the default printer as defined by your Print Services Manager (PSM) is used.

MAI-Screen Image Services supports the following printer types:

PSM

Prints data to your default Print Services Manager (PSM) printer.

VTAM

Prints data to a Virtual Telecommunications Access Method (VTAM) defined printer.

JES

Prints data to a Job Entry Subsystem (JES) defined printer. The printer name must be a destination known to JES.

JCL

Submits a background job which sends data to the JES spool. The printer name must be a destination known to JES.

Note: For the Job Control Language (JCL) printer type, the printer name must be a printer name known to JES. Although the printer name is required, it might not be relevant for this option depending on the site's JCL setup.

If you do not specify the printer type, MAI-Screen Image Services uses the default printer defined in your Print Services Manager (PSM) to handle print requests.

To change the default printer

1. Access the Screen Image Services : Primary Menu.
2. Specify the printer name and the printer type for your printing option.

Stored Screen Images

You can print stored screen images from the following panels:

- Screen Image Services : Primary Menu
- SIS : Screen Image List
- Any application that has an established MAI session, and an input field.

Print Stored Screen Images from a Selection List

To print screen images from the SIS : Screen Image List

1. Access the Screen Image Services : Primary Menu.
2. Enter **D** at the Select Option ===> prompt. If multiple lists are displayed, enter **S** next to the image list from which you want to print.

   The SIS : Screen Image List is displayed.
3. Enter **P** next to a screen image to print it, or enter **PA** next to the screen image to print a series of screen images. The series of screen images includes this selected image, and all images listed after it.

   The PSM : Confirm Printer panel is displayed.
4. If a printer name is not already specified, specify a printer name. You can enter **?** in the Printer Name field to display a list of printer names defined in your region. With the printer name specified, press F6 to confirm the print job.

   The selected screen images listed in the SIS : Screen Image List is printed, and a notification message is displayed.

Print Stored Screen Images from an Application Input Field

To print all screen images listed in the SIS : Screen Image List

1. At an application input field of the displayed screen, type **.PPQ** and press a skip key.

   The PSM : Confirm Printer panel is displayed.
2. If a printer name is not already specified, specify a printer name. Enter **?** in the Printer Name field to display a list of printer names defined in your system. With the printer name specified, press F6 to confirm the print job.

   All screen images listed in the SIS : Screen Image List are printed, and a notification message is displayed.

Print the Displayed Screen

You can print the displayed screen in any of the following ways:

- From the Screen Image Services : Primary Menu.
- Using a session jump key.

  Note: You can only print the displayed screen using a session jump key (see page 57) if one is assigned to you.
- From any application that has an established MAI session, and an input field.

To print the displayed screen from an application input field

1. At any application input field, type **.PP** and press a skip key.

   The PSM : Confirm Printer panel is displayed.
2. If a printer name is not already specified, specify a printer name. Enter **?** in the Printer Name field to display a list of printer names defined in your system. With the printer name specified, press F6 to confirm the print job.

   The screen image is printed, and a notification message is displayed.

Data Copying to Other Screens

The following procedures describe the complete process required for copying and pasting data to other screens using MAI-Screen Image Services.

Copy a Screen Image

Before you can copy data from a screen, you copy the complete screen to the clipboard.

Copy a screen image to the clipboard from the displayed screen

1. Jump to the session from which you want to copy data using the session jump keys.
2. At an application input field of the displayed screen, type **.PRS** and press a skip key.

   This session command copies the displayed screen to the clipboard. If a screen has been copied to the clipboard previously it is replaced.

Select, Copy, and Paste Screen Image Data

Before you proceed, ensure that you have completed the procedure in the previous section.

To select, copy, and paste screen image data

1. Jump to the session screen into which you want to paste data.
2. At an application input field of the displayed screen, type **.PRP** and press a skip key.

   The screen that you copied to the clipboard is displayed.
3. Select the text from the displayed screen. MAI-Screen Image Services allows you to make a single data selection, or several selections. You can select single lines of data or boxed areas of data, as follows:

   Line Selection

   To select a line, or a part of a line, move the cursor under the first character you want to copy and press F5. Every character to the right of the cursor on the selected line is highlighted. If you want to copy a part of the line move the cursor to the last character you want to include and press F5 again.

   Box Selection

   To select a boxed area, move the cursor under the first character you want to copy and press F6. Move the cursor down and to the right so that it is under the last character you want to copy and press F6 again. The boxed area is highlighted.
4. After you complete a single data selection or several selections, press F3 to complete the copy process.

   The screen from which you invoked the Screen Image Services : Primary Menu is displayed. All input fields into which you can paste data are underlined when this screen is displayed.

   Note: The input fields displayed in the pasting screen only accept pasted data, they do not accept typed data.
5. To paste the data you copied in the previous step, place the cursor in the desired input field and press F6. Repeat for each data selection. The data is pasted in the same order it was copied.

   Note: When pasting a box selection, all input fields must begin in the same column.

6. When you have completed pasting all data press the F3 key.

   The application screen is displayed with the pasted information in the application input fields.

   The data that you pasted in the application screen input fields is processed as input data by the application. That is, the application processes the data as if you had typed it into the input fields.

Notes:

- You can abort the copy and paste process at any stage by pressing the F4 key.
- You can press F1 at any stage to display online help.

Screen Images, Sending and Receiving

MAI-Screen Image Services allows you to send screen images to other users of the system region from which you accessed the MAI : Primary Menu. This section describes how to:

- Send stored screen images
- Send the displayed screen image
- Receive screen images

Send Stored Screen Images to Other Users

You can send stored screen images from these panels:

- Screen Image Services : Primary Menu
- SIS : Screen Image List

To send a screen image using the SIS : Screen Image List

1. Access the Screen Image Services : Primary Menu.
2. Enter the user ID of the user you want to receive the image in the Screen Image Services : Primary Menu Userid of Receiver field.

   A group of users can be specified using the asterisk (*) wildcard character in the Userid of Receiver field. For example, to send messages to all user IDs beginning with USER, enter the string USER*.

   You can optionally warn the receiving user IDs of the receipt of the transferred images.

   To warn the receiver, enter **YES** into the Warn Receiver field. When the MAI-Screen Image Services menu is presented, a warning panel is displayed specifying the user ID of the sender and the number of images being sent. If you specify NO, then no warning panel is issued and the sent images is displayed when the receiving user next interacts with the region.
3. Enter **D** at the Select Option ===> prompt. If multiple lists are displayed, enter **S** next to the image list from which you want to send an image.

   The SIS : Screen Image List is displayed.
4. Enter **T** next to a listed image to send it, or enter **TA** next to the screen image to send a series of screen images. The series of screen images includes this selected image, and all images listed after it.

   The screen images are sent, and a notification message is displayed.

Send the Displayed Screen Image to Other Users

You can send the displayed screen image from these panels:

- Screen Image Services : Primary Menu
- Any screen of an application that has an established MAI session, and an input field

To send a screen image from the displayed screen

1. At an application input field of the displayed screen, type **.PT** and press the skip key.

   You are prompted to enter the user ID of the receiver if no user ID is specified in the Screen Image Services : Primary Menu Userid of Receiver field.

2. Specify the user ID of the user you want to receive the image in the Screen Image Services : Primary Menu Userid of Receiver field.

   A group of users can be specified using the asterisk (*) wildcard character in the Userid of Receiver field. For example, to send messages to all user IDs beginning with USER, enter the string USER*.

   You can optionally warn the receiving user IDs of the receipt of the transferred images.

   To warn the receiver, specify **YES** into the Warn Receiver field. When the MAI-Screen Image Services menu is presented, a warning panel is displayed specifying the user ID of the sender and the number of images being sent. If you specify **NO**, then no warning panel is issued and the sent images is displayed when the receiving user next interacts with the region.

3. Press Enter.

   The displayed screen image is sent, and a notification message is displayed.

Receive Screen Images

To receive a screen image from an MAI-Screen Image Services sender, you must be logged on to the same region. The image sender can specify whether you, the receiver, are warned that an image is available for display, or to display the image immediately. When another user sends a screen image to you, either the sent screen image, or a warning panel is displayed when you next interact with the system. The warning panel displays the user ID of the sender with the number of screen images sent.

To view the received screen images, press Enter to move through the images.

To exit the image view, press F3.

Chapter 6: Using Operator Console Services

This section contains the following topics:

Operator Console Services (see page 83)
Access OCS (see page 84)
OCS Panel (see page 84)
Run Multiple OCS Panels (see page 86)
Function Keys (see page 87)
Assign Your Own Values to Function Keys (see page 88)
Use Commands in OCS (see page 91)
Monitor and Control in OCS (see page 94)
Receive Non-roll Delete Messages (see page 97)
Use the Activity Log to Help Monitor Your Regions (see page 99)
Interpret Messages and Codes to Help Monitor Your Region (see page 99)
Issue Commands (see page 100)
Execute or Start NCL Processes from OCS (see page 105)

Operator Console Services

Operator Console Services (OCS) lets you enter commands to control and monitor your resources.

OCS uses a formatted display panel called an OCS window to provide an environment for executing commands or NCL procedures. Your command results are returned to the window, with other system information, to provide a console function.

The level of authority granted in your user ID definition limits the actions you can perform in OCS. You control the way your OCS window looks and the way you use it. This set of attributes, privileges, and options is called your *operator profile*.

Certain attributes of your operator profile are controlled by UAMS. Other attributes can be changed using the PROFILE command.

Access OCS

To access OCS

1. Enter **O** at the prompt at the main Primary Menu.

   The OCS window appears.

OCS Panel

The OCS panel has two distinct activity areas: a one-line command input area at the bottom of the window, and an output message display area called the roll delete area, which occupies the remaining space above the command line.

Command Line

The command line is the bottom line of the OCS window. The command line is the only display field where input is permitted. The cursor is automatically positioned to the right of the command line prompt when the panel is first displayed. To enter a command, position the cursor in the command line and press Enter.

Operating Mode Indicators

A mode indicator may appear to the left of your command entry area to indicate how the OCS window is currently operating. Values of the operating mode indicators and their meanings are as follows:

M (Monitor)

Terminal has monitor status and receives monitor messages.

P (Paused)

An NCL procedure has paused awaiting the entry of a GO, END, or FLUSH command. The SHOW NCL command gives you further details.

W (Waiting)

An NCL procedure is waiting for specific text to arrive. The SHOW NCL command gives you further details.

Roll Delete Area

When you receive messages as the result of commands entered on the command line, they are reported in the roll delete area with any unsolicited information you are profiled to receive.

Output to the roll delete area is written line-by-line from top to bottom of the screen. When the display area is full, new output messages wrap back to the top of the screen, overwriting the oldest displayed messages first.

Non-roll Delete Area

Any messages requiring a reply are delivered as non-roll delete messages. This means that the messages stay on your screen until you respond. These messages are displayed at the top of an OCS window above the roll delete area. The non-roll delete area is created only when a non-roll delete message is delivered to your OCS window.

Roll-delimiter Line

Messages are written from top to bottom of the screen. The next line for use is filled by a line of underscore (_) characters. This line is called the roll-delimiter line. It separates the oldest and newest output displayed. Output below this line is the oldest display information; output above the line is the most recent.

Note: The underscore characters used for this line can be changed using the PROFILE DELCHAR command.

Title Line

The top of the roll delete display area is reserved for a title that can be set or reset by using the TITLE command.

Time Display

The top left of the title line includes the present system time in *hh.mm* format and is automatically updated each time anything is written to the OCS window.

Run Multiple OCS Panels

You can use the screen-splitting function (see page 34) to run two OCS windows in parallel on the same screen.

You can have one screen window operating in OCS with the other part-screen or window in full-screen mode (for example, as a menu).

Set Window IDs

When two OCS windows are running simultaneously, it helps if you can distinguish each window while executing NCL procedures.

To set a name for each OCS window, enter the OCSID command followed by a 1- to 8-character name at the command prompt on an OCS window and press Enter. The name for each window appears to the right of the line, immediately above the command line.

Example: Set Window ID

To set a window ID of NET01, enter the following command:

```
OCSID NET01
```

After pressing Enter, NET01 appears to the right of the line immediately above the command line.

Note: You can set profile attributes for each OCS window, so that two OCS windows on the same terminal can have different profiles and appearances.

Function Keys

OCS windows have full support for 24 function keys. You can set function keys for each OCS window to suit your requirements. If you are running two OCS windows, each window can have a separate set of function key definitions.

A variety of function keys are available:

- Default (system-wide) function keys
- Immediate function keys
- Conversational function keys
- Prefix function keys
- Suffix function keys
- NCL controlled function keys

The OCS function keys are set to system default values when you enter OCS.

When you redefine a function key, its defined value applies only to the function key settings for your current window, and remains in effect only while your current window is active.

When you press an immediate function key, its assigned value is immediately entered into the system, without the need for further action by you.

Note: To discover the assignment of each function key, use the PF LIST command.

Conversational Function Keys

A conversational function key lets you modify its action before you release it for processing. When you press a conversational function key, its assigned value is displayed in the command line, so you can add to or modify the text. Press Enter to run the command after you modify it.

Prefix and Suffix Function Keys

A prefix function key assigns a set value as a prefix to the line of text where the cursor is located when that function key is pressed (that is, the command line or any other line in the OCS window display area).

Example: Prefix and Suffix Function Keys

The F6 function key is defined using the following command:

```
PF6 PREF,MSG USER1+
```

When you enter a message in the command line saying: SYSTEM DOWN AT 17.00, and press F6, the following command is generated and entered:

```
MSG USER1 SYSTEM DOWN AT 17.00
```

Note: The plus sign (+) leaves a blank after the text before concatenating it with the entered string.

A suffix function key acts like a prefix key, but adds its value to the end of the line of text where your cursor is positioned (that is, the command line or any other line in the OCS window display area).

Assign Your Own Values to Function Keys

You can assign your own values to function keys so that they invoke an NCL procedure or act as the Enter key. If a function key is being used as the Enter key, you can redefine the Enter key to perform an OCS function.

Specify Commands to Function Keys

To redefine function keys, use the PF command. You can specify the new function key value as *one* of the following:

Conversational

The value of the function key appears in the command line so that it can be edited before being issued.

Immediate

The function key performs an immediate function such as Enter.

Suffix

The function key value is placed at the end of an entry in the command line.

Prefix

The function key value is placed at the beginning of an entry in the command line.

Example: Assign a Conversational Function Key

To assign the SHOW NCL command as a conversational function key to the F4 key, enter the following command:

```
PF4 CONV,SHOW NCL=
```

When you press F4 from now on, SHOW NCL= is displayed at the command prompt so that you can add to it before executing it.

Example: Define Multiple Commands

You can use a semicolon as a command separator in the function key value to define multiple commands. When entering the PF command, specify two semicolons.

To define F20 to clear the screen and display users, enter the following:

```
PF20 CLEAR;;SHOW USERS
```

Set Function Keys as Enter Keys

The PF command can set a function key to act as the Enter key. The Enter key is defined as an immediate function key with no associated value.

Example: Define Enter Key

To define PF12 as the Enter key, enter the following:

```
PF12 IMM
```

PF12 acts as the Enter key because there is no entry after IMM. When you press F12, text is executed from the command line as if the Enter key is pressed.

Redefine the Enter Key

You can use the ENTER command to redefine the action of the Enter key.

Important! You must define at least one function key to act as Enter *before* you redefine the Enter key.

Example: Redefine Enter Key to Act as CLEAR Command

To redefine the value of the Enter key to act as the CLEAR command, type the following:

```
ENTER CLEAR
```

The Enter key no longer acts in its standard manner.

Example: Reset Enter Key

To reset the Enter key, type the following text and then press the function key that is defined as Enter:

```
ENTER IMM
```

Specify Function Keys Using NCL Procedures

You can also assign values to a function key from an NCL procedure. By setting the appropriate function keys in an NCL procedure and setting your initial command to execute the NCL procedure on entry to OCS, you can set the function keys for your OCS window.

Use Commands in OCS

OCS windows can be used to enter product commands and monitor the results. Commands are entered on the command line and take effect when you press the Enter key.

You can access a list of all product commands from online help.

To access the list of commands from any OCS window

1. Press F1 (Help).

   The OCS Overview panel appears.

2. Enter **S** beside the List of Commands topic.

   The commands are listed. You can select any of the commands displayed to get more information about its use and syntax.

Command Authority Levels

All commands are assigned an authority level within the range 0 to 255, zero being the lowest and 255 the highest authority level. The operands on some commands might require a higher authority than the base command itself.

You are allocated a command authority level in your user ID definition, corresponding to the scope of system control you require. Whenever you enter a command, your user ID authority level must be equal to or higher than the authority level of the command entered, otherwise the command is rejected.

This authority level checking also applies to commands executed from NCL processes invoked under your user ID.

Abbreviate Commands

All commands consist of a single command, which can be followed by one or more operands. Most commands can be abbreviated to the smallest number of characters consistent with their being distinguishable from any other product command. For example, the SHOW command can be abbreviated to SH.

Concatenate Commands

Several commands can be entered simultaneously by concatenating them into the same OCS command line and separating each command with a semicolon (;). The concatenated commands are processed from left to right in the order they are entered.

Example: Concatenate Commands

The command string D LU10;D LU11 is treated by the system as two independent commands:

```
D LU10
D LU11
```

You can use the CLEAR command in this manner to clear the display area before the results of the next command are displayed. For example:

```
CLEAR;D BFRUSE
```

If you need to enter a semicolon as part of a command (that is, to use it as part of the command text), you must enter two semicolons instead of one.

To enter the command a;b, you must enter a;;b. The second semicolon is stripped from the text and the a;b string passed to the system as a single command. The remaining semicolon is not regarded as a command separator character.

Command separators are specified by using the PROFILE CMDSEP command.

Prevent Command Concatenation

You can prevent command concatenation by using the CMDSEP operand of the PROFILE command. When CMDSEP is set to NO, semicolons are not regarded as command separators and are always treated as part of the command string.

You can assign concatenated commands to function keys because the value of the CMDSEP operand is overridden by the value that the operand contained when the function key was defined.

Reuse Commands

If you enter a command regularly, you do not need to retype it every time you want to issue the command. There are facilities provided with OCS that let you reuse commands you have previously entered.

More information:

Use the Command Stack (see page 93)
Retain Commands on the Command Line (see page 93)
Copy Display Lines into the Command Line (see page 93)

Use the Command Stack

Each OCS window keeps a stack of the commands most recently entered from its command line. The stack does not include immediate function key entries. The number of entries kept in this stack can be changed by using the PROFILE CMDSTACK command.

You can use the command stack to retrieve previous commands entered and redisplay them on the command line so that they can be modified for re-entry.

Commands are retrieved from the stack using the CS+ or CS- commands. The default system function key series includes settings for the CS+ and CS- commands. These are F10 and F11 respectively. We recommend that you retain these.

Retain Commands on the Command Line

When you execute a command, the command can be retained on the command line so that you can execute it again, or edit the command before executing it again. This facility lets you increment and enter command sequences with minimal effort.

This feature can be turned on or off using the PROFILE CMDKEEP command. When turned off, the command line is cleared as soon as the Enter key is pressed and a command must be retrieved from the command stack if it is required again. When turned on, the command you enter is retained on the command line so that you can enter it again.

Copy Display Lines into the Command Line

To copy a command (or some other message) from an OCS window display area to the command line, put the cursor on the line you want to copy, and enter CS+ or CS- (or press F10 or F11).

The command or message appears in the command line.

Rename Commands

EQUATE commands can be included in initialization procedures to do the following:

- Override or rename standard commands
- Define a series of 1- to 8-character strings for use in place of lengthy command strings

Monitor and Control in OCS

OCS allows you to monitor and control your regions by receiving messages and allowing you to issue commands. Events from your network are sent to your OCS window. You can issue commands to take control of any problems that might occur.

As you receive messages and output from commands, you can control, reorder, or clear output on the screen so that it can be read more easily.

Control Message Presentation Speed

When the bottom line of the display area is filled, the system pauses before wrapping back to the top of the display area to write the next message.

Sometimes, a large number of messages might be sent to the screen within a very short period of time. This causes the display to roll messages faster than you can read them. There are two options you can use to temporarily suspend message delivery or change the way the messages display:

- The HOLD option
- The AUTOHOLD option

Stop Message Flow Manually

To stop the flow of output to the screen at any time, press the Enter key while nothing is in the command line. This freezes the display and no further messages appear until you enter data.

While the screen is frozen, the word HOLDING appears immediately above the command line.

Stop Message Flow Automatically

The default value for automatic hold supplied with your system automatically freezes an OCS window when a message fills the last line and there are messages queued to wrap back to the top of the screen. This is specified by the AUTOHOLD command.

When AUTOHOLD freezes your screen, the caption AUTOHOLD is displayed above the command line. No further messages appear until you input something.

The AUTOHOLD command option is part of your operator profile.

Note: If more unsolicited messages arrive while the screen is in HOLDING or AUTOHOLD mode, the caption above the command line changes to MSG QUED, and the terminal alarm sounds.

Message Queue Holding Limit

Your system queues a limited number of messages for an OCS window while in the HOLDING or AUTOHOLD mode. The queue limit default before any OCS window messages are discarded is 200 messages.

The HOLDING or AUTOHOLD caption above the command line changes to 75% LIMIT, HOLD LIMIT, and then MSGS LOST, as this limit is approached, reached, and then exceeded. Each caption change also sounds the terminal alarm. These conditions vary and update while you actively monitor and release system messages in the OCS window.

You can define the queue limit for each OCS user window by using the PROFILE command.

Contention Delay Interval

One of the characteristics of an OCS window is that your system can send messages to your window at the same time as you are entering a command. These messages are displayed differently depending on the type of terminal you are using:

A Non-SNA Terminal

Any data you have just entered is immediately frozen and any new data entered is ignored while the message writes to the screen. You can then continue to type in your command text when message delivery has finished.

An SNA 3270 Terminal

A contention condition arises. The terminal is seen as being in a send state (because you have started typing on the keyboard), and refuses to accept any output from your system until your input has been sent. However, rather than defer your system, the system interrupts you after a set period and forces the output of a message.

The default contention delay interval is 15 seconds. This is usually long enough to let you complete a standard command input operation.

Unwrap Messages

To resequence or unwrap messages displayed in your OCS window, enter the **ORDER** command.

The OCS messages are redisplayed in the window in chronological order, with the oldest messages at the top of the window.

The ORDER command is assigned to F12 by default.

Note: This command does not affect the HOLDING or AUTOHOLD condition.

Clear the OCS Window

After many messages have appeared in your OCS window, you may want to clear the window before any new messages arrive.

To clear your OCS window, enter the **CLEAR** or **K** command.

Receive Non-roll Delete Messages

Most messages displayed on an OCS window are classified as roll delete messages. This means they are displayed once and eventually roll off the top of the screen as subsequent messages arrive and overwrite them.

When a non-roll delete (NRD) message is delivered to an OCS window, it remains in your OCS window until deleted. The NRD messages are in two categories:

- Those that are remembered by the system and are retained until explicitly deleted by the issuing process
- Those that are only displayed at individual OCS windows until deleted and are not remembered by the system

The non-roll delete area is separated from the roll delete area by a delimiter line. This line is usually a series of dash (-) characters. To change the character, use the PROFILE NRDELCH command.

NRD messages are managed centrally and held in a queue. Your system administrator determines the size of this queue. If there are more NRD messages than this limit, the oldest outstanding NRD message is deleted to remove copies of the message from all affected OCS windows.

However, NRD messages from &WRITE NCL statements are never deleted automatically. It is therefore only possible to exceed the NRDLIM queue depth if large numbers of &WRITE-generated NRD messages exist at the same time.

A warning message is sent to all OCS users with monitor status to notify them when the NRD message queue reaches 75 percent full.

You can hide these messages to allow other message flows to continue in your OCS window, and then reveal them again when you are able to deal with them.

Hide NRD Messages

To remove an NRD message from the OCS display, move your cursor to the line on the screen with the NRD message you want to remove and then press Enter.

The NRD message disappears and the screen is reformatted. Removing NRD messages in this way provides more room for pending NRD messages or a larger roll delete area.

Note: System NRD messages are not deleted from the NRD message queue, only from your OCS window. NRD messages specific to your OCS window are deleted, and cannot be recalled.

Restore Hidden NRD Messages

Hidden NRD messages can be restored by entering the NRDRET command. The oldest hidden NRD messages are returned to the non-roll delete area first, until the area has expanded to its maximum size.

The NRDRET command displays all hidden NRD messages that you are entitled to view, including those that occurred before you entered OCS and any that are still outstanding.

NRDRET can be issued from any environment capable of receiving NRD messages, including NCL &INTCMD environments.

Delete NRD Messages

An NRD message is automatically deleted when *one* of the following conditions is satisfied:

- The condition to which an NRD message refers is satisfied
- An NCL process issues an &NRDDEL NCL statement to delete a specific NRD message
- The NCL process that generated the NRD is terminated

You can only delete NRD messages that are remembered by the system by using the PURGE command.

Use NRD Messages with ROF Sessions

Messages that originate from a remote system carry the NRD message attribute and appear as NRD messages, in the same way as locally-produced messages.

When an INMC link fails and breaks any ROF sessions traveling across it, all NRD messages from that remote system are automatically deleted.

When you close a ROF session to a particular remote system by using the SIGNOFF command, any NRD messages you have received across the ROF session are deleted from your window. Other users displaying the same NRD messages are not affected.

Use the Activity Log to Help Monitor Your Regions

The activity log records all commands, responses to commands, and messages that occur in your regions. By accessing the activity log when you are in OCS you can browse through recent activity on the system to assist you in locating information and analyzing problems.

To access the activity log browse function from OCS, enter **/LOG** at the prompt.

On initial entry to the activity log, you are positioned at the end of the log for the current day. You can use the F8 (Forward) and F7 (Backward) function keys to scroll through the log for the current day as well as for previous days.

Note: For more information about locating information in the activity log, press F1 (Help) from the activity log panel.

Interpret Messages and Codes to Help Monitor Your Region

The information database provides categories of information about commonly used codes and errors. By accessing the information database from OCS, you can get information about error messages that appear in your OCS window.

To access the information database from OCS, enter **/CODES** at the prompt.

Issue Commands

Being able to issue commands from OCS is an important part of controlling your regions. From OCS you can issue commands to the background processes of your product, and you can set commands to issue automatically, based on a specified time.

Issue Commands in Background Environments

Background environments are internal to your system and services. They process commands submitted to them by users and support system level procedures such as LOGPROC. Each background process has a user ID, but is not associated with any physical terminal.

The following background environments are available:

BSYS

Background system environment

BMON

Background monitor environment

BSVR

Background server environment

BLOG

Background logger environment

You can send commands to these environments for them to execute, as if they were real OCS users by using the SUBMIT command. You can submit commands or NCL procedures. For example, if you want the background system environment to start the procedure MONPROC, enter the following command:

```
SUBMIT BSYS START MONPROC
```

After a command is submitted, its processing is managed by that environment. It is not affected if you log off or leave OCS, and its command authority remains the same as the user ID of the submitter.

Background environment processing is ideal for monitoring an NCL procedure that regularly checks the status of network components. Commands directed to the Background Monitor route the command and its results to all monitor status terminals logged on to the system, and to the activity log. Commands directed to the Background Logger for execution log the command and its results only.

Timer commands (see page 101) can also be routed to background environments by the SUBMIT command or by the ROUTE operand for the timer command being issued.

Issue Commands at Specified Times

You can issue commands at specified times and at specified intervals. These commands are known as timer-initiated commands. The following timer-initiated commands are available:

AT

Executes commands at a specified time of day. Timer commands use a 24-hour clock with the format *hh.mm.ss*.

Limits: 24.00.00 (midnight)

EVERY

Repeats commands at a given time frequency.

Default: 10 seconds

Timer commands can be entered in OCS, or included in NCL procedures.

A maximum of 9999 concurrent timer commands is supported, and this maximum is the default.

If you log off after issuing a timer command, that command is not executed. However, you can use the ROUTE or KEEP operand when you enter an AT command to specify another user to issue the command in your place. This feature allows you to sign off and have the results of the command returned to you when you sign on again.

The ROUTE and KEEP options are ideal if you are including timer commands for specific operators in the system initialization procedures that are executed automatically during startup.

Timer commands can also be specified with a limit to the number of times they can execute before being automatically purged.

Example: Monitor Users at a Specified Interval

To monitor the users that are logged on to the system every half hour, enter the following command:

```
EVERY .30 CMD=SHOW USERS
```

Also, if you want to remind users of a three o'clock meeting one hour before it starts, enter the following command:

```
AT 14.00 MSG ALL DON'T FORGET MEETING AT 15.00
```

When a timer command executes, the command text is echoed on all applicable terminals as if the command had been entered from those terminals. A unique timer ID prefixes the command text echo and has the following format:

```
#nnnn command_text
```

Display Active Timer Commands

You can display pending timer commands by using the SHOW TIMER command. By default, this command lets you display any timer commands initiated by your user ID. However, by specifying the ALL operand you can display all outstanding timer commands on your system.

Example: Display Active Timer Commands

To find out what timer commands you have initiated, enter the following command:

```
SHOW TIMER
```

Using the example given above, the following is displayed:

```
 ID BY INTERVAL -USERID-R LIM CNT K/P ENV P/M TID  NEXT
  4 EV 00:30:00 USER01      0   0  NO PRI YES -    12:29:48
     CMD=SHOW USERS
  5 AT 14:00:00 USER01      0   0  NO PRI YES -    14:00:00
     CMD=MSG ALL DON'T FORGET MEETING AT 15.00
NUMBER OF TIMER COMMANDS DISPLAYED WAS 2.
```

Delete Timer Commands Manually

When you initiate a timer command, the system allocates a unique four-digit number known as the timer ID, or purge ID. This number prefixes all displays resulting from that command, and must be used when manually deleting a timer command.

To delete a timer command manually, use the **PURGE** command.

To delete a timer command created by another user, you require a command authority level of 2 or higher.

Example: Delete Command

To delete an AT timer command, enter the following command:

```
PURGE TIMER=5
```

The value 5 is the purge ID assigned to the AT command.

Delete Timer Commands Automatically

By default, your timer commands remain active only while you are logged onto the system. Before each attempt to execute the command, the system checks that you are still logged on.

If you are no longer logged on to your system, the timer command is automatically deleted, without further execution.

Redirect Timer Commands

If you want your timer-initiated commands to continue to execute after you log off, you can redirect the command results to the background logger, background monitor, or the system background environment.

To redirect the timer command, specify an AT or EVERY command with the KEEP operand.

By default, the KEEP operand requires a command authority level of 2 or higher.

Example: Redirect Timer Commands

To redirect the SHOW USERS command for execution by the background system environment, enter the following command:

```
EVERY .30 KEEP=SYS CMD=SHOW USERS
```

If the KEEP operand is in use, the execution of timer commands continues irrespective of whether you are logged on to the region.

Limit Timer Command Executions

When defining a timer command, you can use the LIMIT operand to specify a limit on the number of times the command is executed. When this limit is reached, the command is automatically purged.

The limit you assign and the number of times a command has already executed are displayed by the SHOW TIMER command.

Example: Limit Timer Command Execution

To limit the number of times the SHOW USERS command is executed to 5, enter the following command:

```
EVERY .30 LIMIT=5 CMD=SHOW USERS
```

When the SHOW USERS command has been executed five times, the timer command is deleted.

Execute a Timer Command Under Another User ID

The ROUTE operand lets you direct a command for execution under another user ID—the target user ID. The operand requires a command authority level of at least 2.

With this option, the timer command is retained even if the target user ID is not logged on. Command execution is bypassed and the time interval reset. The command is attempted again only after the time interval has again elapsed.

Example: Execute Timer Command Under Another User ID

If you want USER02 to execute the SHOW USERS command, enter the following command:

```
EVERY .30 ROUTE=USER02 CMD=SHOW USERS
```

Specify Concatenated Commands in Timer Commands

Concatenated commands can be specified in the command text for a timer command. Separate each command in the concatenation with a colon (:). These are internally translated into normal concatenation characters, that is, semicolons (;), before execution.

Execute or Start NCL Processes from OCS

There is an NCL processing environment for each window of your terminal that allows commands and NCL processes to execute on behalf of that window.

When you use an EXEC or START command to invoke an NCL process, the NCL process executes in the NCL processing environment for the OCS window.

Note: If you enter the EXEC or START command incorrectly, the system attempts to execute the command as if it were an NCL process.

Any NCL process can have a dependent processing environment that lets it issue commands or execute other NCL processes independently using the &INTCMD statement. NCL procedures can also use ROF sessions to collect information from other systems.

Execute NCL Processes Serially

An OCS window can execute a serial stream of NCL processes so that they are invoked one after the other. Serial execution is suitable for processes with a short duration.

To execute NCL processes serially, use the **EXEC** command.

Processes invoked by the EXEC command can issue the &PAUSE statement to wait for further input from the OCS window. The GO, END, FLUSH, and INTQ commands, together with the process's unique identifier, let you communicate with the process.

Example: Execute Processes in Sequence

To execute PROC1 and PROC2 in sequence, enter the following commands:

```
EXEC PROC1
EXEC PROC2
```

Your OCS window places the two processes in an EXEC queue, which are executed on a first-come, first-served basis. Process PROC1 is scheduled for immediate execution and process PROC2 is queued to execute after PROC1 ends.

Execute NCL Processes Concurrently

An OCS window can execute NCL processes in parallel at the same time.

Any started procedure can issue an &PAUSE statement to wait for further input from GO, END, and FLUSH commands from the OCS window. These commands, together with the process's unique identifier, let you communicate with the process explicitly.

Example: Execute NCL Processes Concurrently

To execute PROC1 and PROC2 at the same time, enter the following commands:

```
START PROC1
START PROC2
```

NCL Identifiers

Each NCL process is allocated a unique identifier that links it to the issuing OCS window. This ensures any &WRITE or &PANEL statements issued by the NCL process (or any other processes it starts or executes), are returned to that window only. If the window is terminated, any queued process is deleted.

Execute an NCL Process from a Serial or Concurrent Process

An NCL process executed from an OCS window (or any process it invokes) can itself issue EXEC or START commands.

If an EXEC command is used to execute an NCL process, the process issuing the command is suspended when the new process starts executing. Only when the new process ends does the issuing process resume processing.

Invoking a process from another process in this way is called nesting. Nesting is an easy way to structure a series of processes.

Note: The &CALL PROC NCL statement is the recommended method for nesting procedure calls.

If a START command is used to execute an NCL process, the new process starts executing immediately. The new process runs concurrently with the invoking process and independently of it. Each process is unaffected by the termination of the other process.

Advantages of Started Procedures

Using the START command to invoke NCL processes has the following advantages:

- You can perform relatively complex, long-term tasks from your OCS window. This does not prevent other operations from performing concurrently.
- You can perform periodic checking of the network status without operator involvement.
- You can operate a large number of independent, slave procedures on behalf of one OCS window. This lets you monitor many different aspects of the same operation, and various procedures need only communicate with you if errors are detected.

Chapter 7: Using Print Services

This section contains the following topics:

Print Services Manager (see page 109)
Access PSM (see page 110)
List Entries in the Print Queue (see page 110)
Confirm Printing (see page 112)

Print Services Manager

Print Services Manager (PSM) lets you control the physical printing of the reports your organization generates on JES or network printers. Output can be viewed online before or after printing and can be redirected to another destination.

PSM provides the following facilities:

Print Spooling

Writes output to a print spool providing more control over output. This facility lets you redirect output to another printer if one is not available.

Centralized Printer Definition Facilities

Supports VTAM (LU1) and JES (SYSOUT) devices and lets you assign printer aliases. This facility also allows the output destination to be a printer exit.

Print Request Control

Lets you hold, release, browse and delete print requests, redirect print requests to another printer, change priorities and numbers of copies, and display the status of requests.

Notes:

- For information about defining and maintaining printers, see the *Administration Guide*.
- References to JES also apply to VOS3's JES3 and JES4 subsystems.

Access PSM

To access PSM

1. Enter **/PSM** at the prompt.

   The PSM : Primary Menu appears.

List Entries in the Print Queue

You can list all of the entries that are queued to print, and on which printer they are to print.

To display the entries in the print queue

1. Enter **Q** at the prompt on the PSM : Primary Menu.

   The PSM : Output Queue appears.

   Note: You can limit the display to the print queue for a specific printer by specifying a printer in the Printer field on the PSM : Primary Menu before entering the Q option.

Display the Output of a Print Request

The information provided lets you discover exactly how the print request looks when printed.

Note: Only data lines, not heading lines, are displayed.

To browse the output of a print request

1. Enter **B**, **/**, or **S** next to the required print request in the PSM : Output Queue.

   The details appear.

Example: Browse Output

```
PROD------------------------ PSM : Browse Output --------------------REQ# 0265
Command ===>                                                 Scroll ===> PAGE


S A B U Data
       --+----10---+----20---+----30---+----40---+----50---+----60---+----70
N  N ================================================================
1  N   COMMAND ENTRY CAPTURE PRINT
1  N ================================================================
2  N   USERID : USER01               NAME : USER NUMBER 1            LO
2  N   DATE   : MON 26-APR-2010
2  N   TIME   : 11.16.39
2  N  ================================================================
2  N   pr
1  N   N10601 USERID: USER01 TERMINAL-ID: TERM02
1  N   N10602 NCL PROCEDURE LIBRARY ID: COMMANDS
1  N   N13450 PANEL SERVICES PATH NAME: PANELS
1  N   N10603 AUTHORITY LEVEL IS 82
1  N   N13451 NO EDS PROFILES ACTIVE IN ENVIRONMENT.
1  N   N13433 USER SERVICES PROCEDURE: $USERSER
1  N   N10624 NO NPF COMMAND RESTRICTIONS.
1  N   N10627 PPO MESSAGE DELIVERY DETAILS:
1  N   N10628 ..NO NPF MESSAGE RESTRICTIONS.
F1=Help      F2=Split     F3=Exit     F4=Return    F5=Find     F6=Refresh
F7=Backward  F8=Forward   F9=Swap                 F11=Right
```

Modify a Printer Entry

You can modify a print request to change where and how it is to be printed.

To modify a print request

1. Enter **M** next to the required print request in the PSM: Output Queue.

   The PSM : Print Request panel appears.

The PSM : Print Request Panel provides all details about the print request. You can alter some of the fields on the panel.

Confirm Printing

When you send a print request to a printer, the PSM : Confirm Printer panel appears. This panel is used to confirm the printer name, the number of copies, and the hold and keep settings that you require for your print request. The fields displayed on the panel are set to the values you used last.

To change any of these fields, overwrite them with the required information, and press F6 (Confirm).

The new information is used to print your request.

Note: For more information about the fields displayed on this panel, press F1 (Help).

Select the Printer

If you do not know what printers are available to send your print request to, you can display a list of active printers.

To select the printer

1. Enter a question mark (?) in the Printer Name field on the PSM: Print Request panel.

   The list of active printers appears.

   Note: If the list is longer than a full page, use F8 (Forward) and F7 (Backward) to scroll through the list.

2. Enter the selection code at the prompt.

   The printer is selected.

Appendix A: MAI Commands

This section contains the following topics:

Primary Commands (see page 113)
Line Commands (see page 116)
MAI Session Commands (see page 120)
MAI-Screen Image Services Session Commands (see page 122)

Primary Commands

Primary commands are entered in the Command===> input field of the MAI : Primary Menu.

The following lists all MAI primary commands with descriptions and command privilege classes.

null

Jump in current direction.

Privilege Classes: A,B,C

session-ID

Direct jump to specified session.

Privilege Classes: A,B,C

n

Direct jump to a relative session number.

Privilege Classes: A,B,C

A

Activate all sessions.

Privilege Classes: A,B,C*

E

Activate all sessions and hide the menu.

Privilege Classes: A,B,C*

H

Hide the menu and jump.

Privilege Classes: A,B,C

HELP

Use MAI help feature.

Privilege Classes: A,B,C

J

Jump in the current direction.

Privilege Classes: A,B,C

JF

Jump in the forward direction.

Privilege Classes: A,B,C

JR

Jump in the reverse direction.

Privilege Classes: A,B,C

KEYS

Toggle function key display.

Privilege Classes: A,B,C

KEYS SET

Set user-defined function keys.

Privilege Classes: A,B,C

KEYS ON/OFF

Show or hide function key settings.

Privilege Classes: A,B,C

KEYS PRI/ALT

Show primary or alternate function key settings.

Privilege Classes: A,B,C

L, LOGON

Log on to an application.

Privilege Classes: A,B,C

SHOWMSG

Display session script output messages.

Privilege Classes: A,B,C

U, UPDATE

Update stored definitions.

Privilege Classes: A**

X, EXIT

Exit MAI : Primary Menu.

Privilege Classes: A,B,C

MENU

Toggle menu display format.

Privilege Classes: A,B,C

DISC

Disconnect user region.

Privilege Classes: A,B,C

LOCK

Prevent unauthorized terminal use.

Privilege Classes: A,B,C

* User must be authorized for A and E commands ** User must have own stored definitions - not modeled

* User must be authorized for A and E commands ** User must have own stored definitions - not modeled

Line Commands

Line commands are entered adjacent to listed session definitions.

The following lists all MAI line commands with descriptions and command privilege classes:

A

Activate a session.

Privilege Classes: A,B,C

B

Move session to bottom of menu.

Privilege Classes: A,B,C

C,CC,CF,CU

Cancel session.

Privilege Classes: A,B,C

(Cursor position)

Select and start a session.

Privilege Classes: A,B,C

D

Delete a session.

Privilege Classes: A**

H

Hide session.

Privilege Classes: A,B,C

I

Session help.

Privilege Classes: A,B,C

L

Log on to an application.

Privilege Classes: A

M

Modify session details.

Privilege Classes: A

P

Purge line entry.

Privilege Classes: A

PM

Invoke Screen Image Services menu.

Privilege Classes: A,B,C,D*

PS

Store screen image.

Privilege Classes: A,B,C,D*

PD

Display screen image queue.

Privilege Classes: A,B,C,D*

PP

Print screen image.

Privilege Classes: A,B,C,D*

PPQ

Print entire screen image queue.

Privilege Classes: A,B,C,D*

PT

Transfer screen image to another user.

Privilege Classes: A,B,C,D*

PDQ

Delete entire screen image queue.

Privilege Classes: A,B,C,D*

PRP

Activate screen replacement function.

Privilege Classes: A,B,C,D*

PRS

Save screen for screen replacement.

Privilege Classes: A,B,C,D*

PN

Save screen image into CAS notepad.

Privilege Classes: A,B,C,D*

R

Repeat line entry.

Privilege Classes: A

S

Start a session.

Privilege Classes: A,B,C

SL

Place a session in sleeping status.

Privilege Classes: A,B,C

T

Move entry to top of menu.

Privilege Classes: A,B,C

U

Update stored definitions.

Privilege Classes: A**

*Because these commands invoke MAI-SIS, their numeric equivalents can also be used.

** User must have own stored definitions - not modeled

MAI Session Commands

MAI Session commands can be entered into any application input field and must be prefixed with the session's valid skip character. With the session command entered, you press a skip key to execute the command.

The following lists all MAI session commands with descriptions and command privilege classes.

.?

MAI session Help

Privilege Classes: A,B,C,D

.session ID

Direct jump to a specified session

Privilege Classes: A,B,C,D

.n

Direct jump to a relative session number

Privilege Classes: A,B,C,D

.ATTN

Simulate the ATTN key

Privilege Classes: A,B,C,D

.C, .CC, .CF, .CU

Cancel session

Privilege Classes: A

.Fnn

Simulate the Fnn key

Privilege Classes: A,B,C,D

.H

Hide session

Privilege Classes: A,B,C,D

.J

Jump in the current direction

Privilege Classes: A,B,C,D

.JF

Jump in the forward direction

Privilege Classes: A,B,C,D

.JR

Jump in the reverse direction

Privilege Classes: A,B,C,D

.M

Jump to MAI : Primary Menu

Privilege Classes: A,B,C,D

.PAn

Simulate the PAn key

Privilege Classes: A,B,C,D

.S

Start a session script

Privilege Classes: A,B,C,D

.Sc

Change the session skip character

Privilege Classes: A,B,C,D

.SL

Place the session in sleeping status

Privilege Classes: A,B,C,D

.SW

Swap to the other window

Privilege Classes: A,B,C,D*

* SPLIT/SWAP authority required

MAI-Screen Image Services Session Commands

MAI-Screen Image Services session commands are executed in the same manner as MAI session commands. Session commands can be entered into any application input field and must be prefixed with the session's valid skip character. With the session command entered, you press a skip key to execute the command.

The following lists all MAI-SIS session commands with descriptions and command privilege classes.

.P (.PM)

Invoke Screen Image Services menu.

Privilege Classes: A,B,C,D

.PS (.P1)

Store screen image.

Privilege Classes: A,B,C,D*

.PD (.P2)

Display screen image queue.

Privilege Classes: A,B,C,D*

.PP (.P3)

Print screen image.

Privilege Classes: A,B,C,D*

.PPQ (.P4)

Print entire screen image queue.

Privilege Classes: A,B,C,D*

.PT (.P5)

Transfer screen image to another user.

Privilege Classes: A,B,C,D*

.PDQ (.P6)

Delete entire screen image queue.

Privilege Classes: A,B,C,D*

.PRP (.P7)

Activate screen replacement function.

Privilege Classes: A,B,C,D*

.PRS (.P8)

Save image for screen replacement.

Privilege Classes: A,B,C,D*

.PN (.P9)

Save screen image into CAS notepad.

Privilege Classes: A,B,C,D*

* As these commands invoke MAI-SIS, their numeric equivalents can also be used

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